



# Search Report

EIC 1700

STIC Database Tracking Number: 245762

To: RIP LEE  
Location: REM-10A21  
Art Unit: 1796  
Thursday, December 13, 2007  
  
Case Serial Number: 10/524216

From: MEI HUANG  
Location: EIC1700  
REM-4B28 / REM-4B31  
Phone: (571)272-3952  
  
mei.huang@uspto.gov

## Search Notes

Examiner LEE:

Please feel free to contact me if you have any questions or if you would like to refine the search query. Thank you for using STIC services!

Regards,  
Mei

=> fil reg  
FILE 'REGISTRY' ENTERED AT 16:22:43 ON 13 DEC 2007  
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STRUCTURE FILE UPDATES: 12 DEC 2007 HIGHEST RN 957825-32-0  
DICTIONARY FILE UPDATES: 12 DEC 2007 HIGHEST RN 957825-32-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

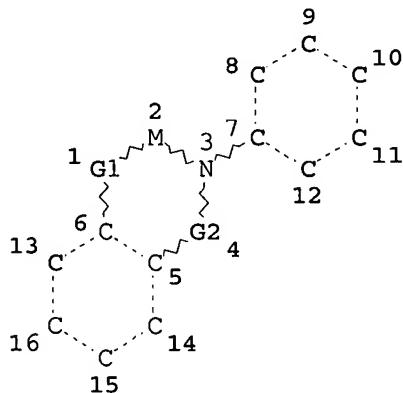
TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

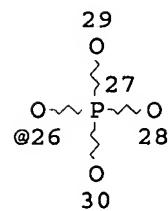
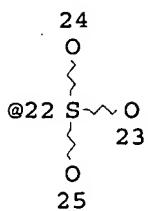
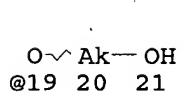
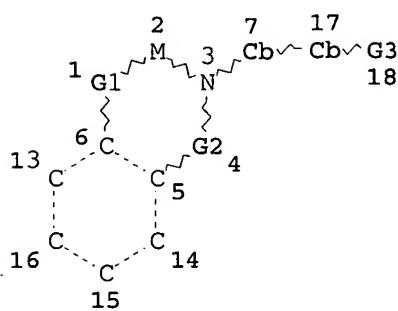
=> d que stat 125  
L3 STR



VAR G1=O/S/N  
VAR G2=C/N  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE  
L7 10084 SEA FILE=REGISTRY SSS FUL L3  
L19 STR



@31 N +

VAR G1=O/S/N

VAR G2=C/N

VAR G3=19/22/26/31

NODE ATTRIBUTES:

CHARGE IS \*+ AT 31

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 7

GGCAT IS MCY UNS AT 17

DEFAULT ECLEVEL IS LIMITED

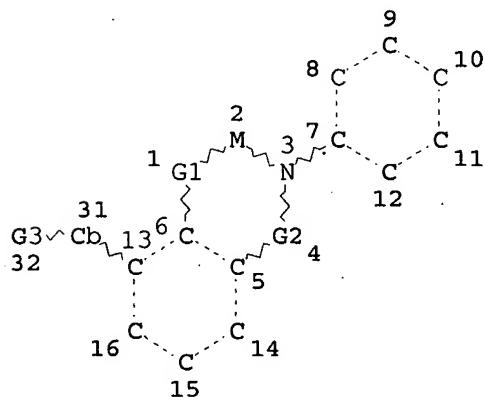
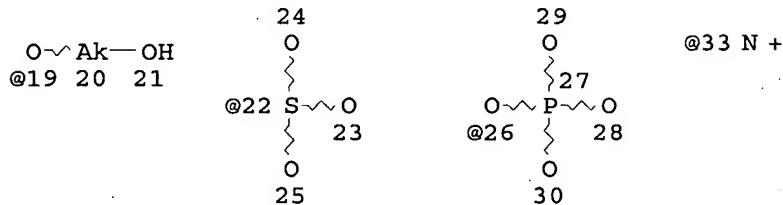
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

L20 STR



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VAR G2=C/N

VAR G3=19/22/26/33

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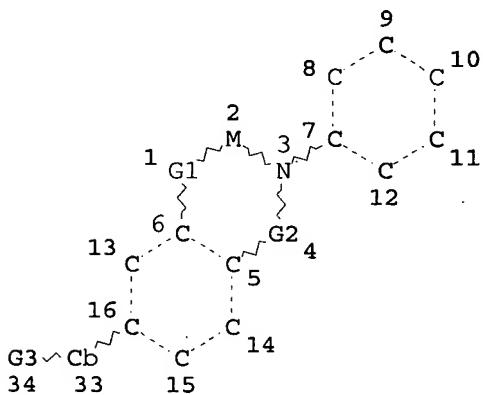
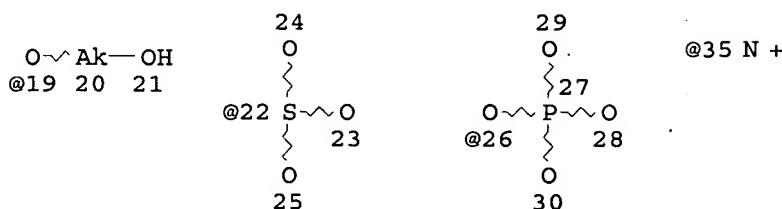
CHARGE IS \*+ AT 33  
DEFAULT MLEVEL IS ATOM  
GGCAT IS MCY UNS AT 31  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE

L21 STR



VAR G1=O/S/N

VAR G2=C/N

VAR G3=19/22/26/35

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**CHARGE IS \*+ AT 3**

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 33

DEFALUT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES

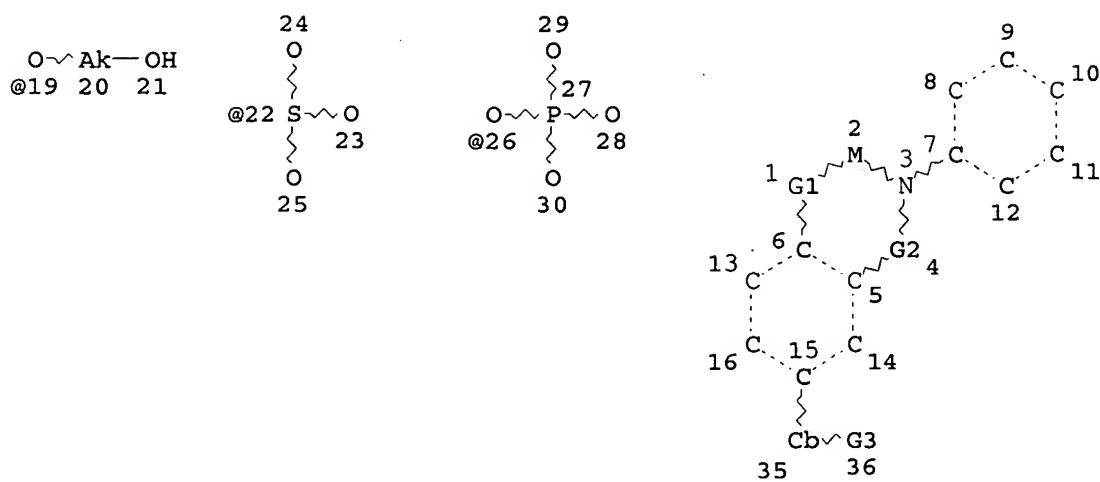
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NUMBER OF NODES IS 31

## STEREO ATTRIBUTES:

**STEREO ATTRIBUTES:**

**B22** **SIR**



@37 N +

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 VAR G2=C/N  
 VAR G3=19/22/26/37

## NODE ATTRIBUTES:

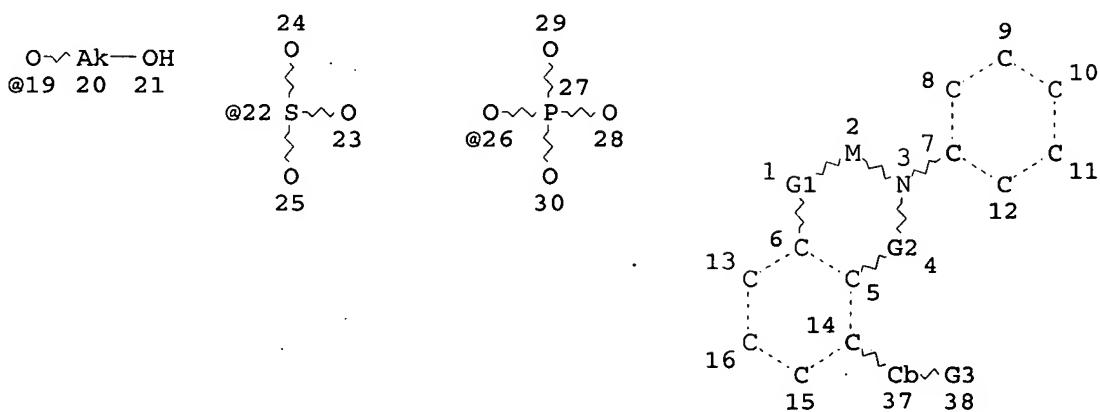
CHARGE IS \*+ AT 37  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS MCY UNS AT 35  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 31

## STEREO ATTRIBUTES: NONE

L23 STR



@39 N +

VAR G1=O/S/N  
 VAR G2=C/N

VAR G3=19/22/26/39

## NODE ATTRIBUTES:

CHARGE IS \*+ AT 39  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS MCY UNS AT 37  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 31

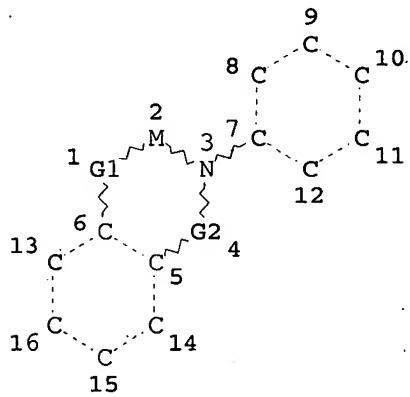
## STEREO ATTRIBUTES: NONE

L25 0 SEA FILE=REGISTRY SUB=L7 SSS FUL (L19 OR L20 OR L21 OR  
 L22 OR L23)

100.0% PROCESSED 10076 ITERATIONS  
 SEARCH TIME: 00.00.01

0 ANSWERS

=> d que stat l34  
 L3 STR



VAR G1=O/S/N

VAR G2=C/N

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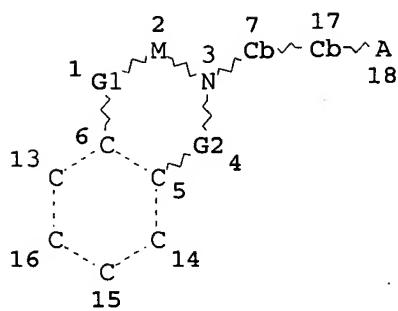
DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

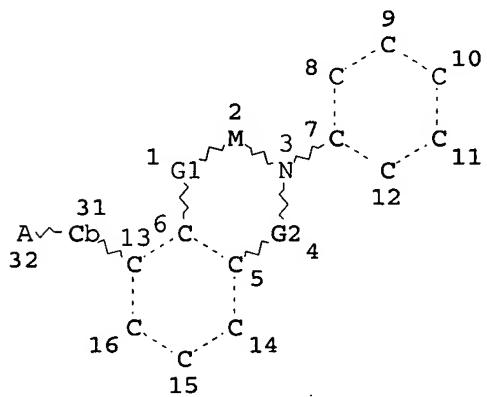
L7 10084 SEA FILE=REGISTRY SSS FUL L3  
 L26 STR



VAR G1=O/S/N  
 VAR G2=C/N  
 NODE ATTRIBUTES:  
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 GGCAT IS MCY UNS AT 7  
 GGCAT IS MCY UNS AT 17  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
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 NUMBER OF NODES IS 13

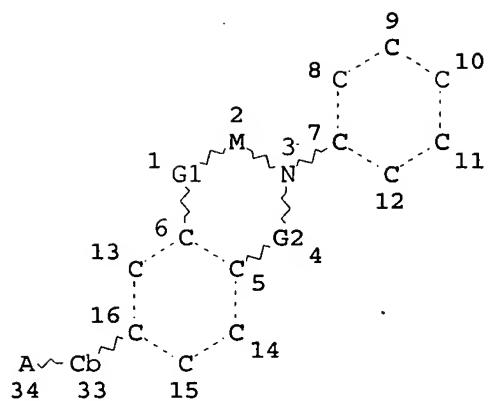
STEREO ATTRIBUTES: NONE  
 L27 STR



VAR G1=O/S/N  
 VAR G2=C/N  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS MCY UNS AT 31  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE  
 L28 STR



VAR G1=O/S/N

VAR G2=C/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 33

DEFAULT ECLEVEL IS LIMITED

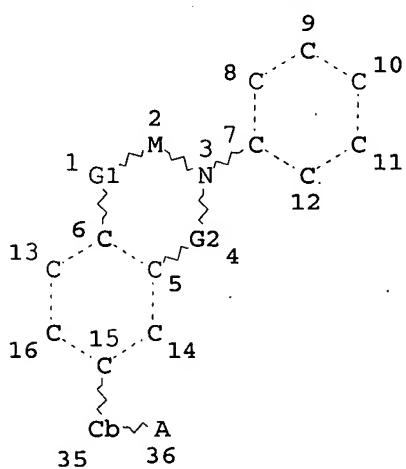
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L29 STR



VAR G1=O/S/N

VAR G2=C/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 35

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

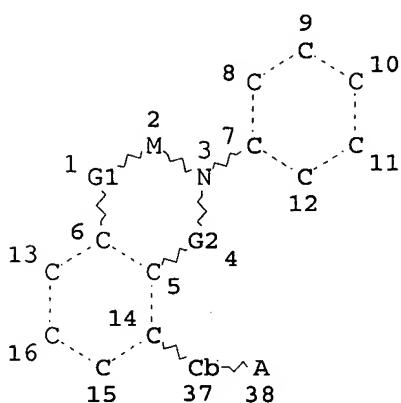
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L30

STR



VAR G1=O/S/N

VAR G2=C/N

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS MCY UNS AT 37

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 18

## STEREO ATTRIBUTES: NONE

L32 303 SEA FILE=REGISTRY SUB=L7 SSS FUL (L26 OR L27 OR L28 OR  
L29 OR L30)

L33 299 SEA FILE=REGISTRY ABB=ON PLU=ON L32 AND M=1

L34 136 SEA FILE=REGISTRY ABB=ON PLU=ON L33 AND (B7 OR B8)/PG

=&gt; fil hcap

FILE 'HCAPLUS' ENTERED AT 16:23:04 ON 13 DEC 2007

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FILE COVERS 1907 - 13 Dec 2007 VOL 147 ISS 25

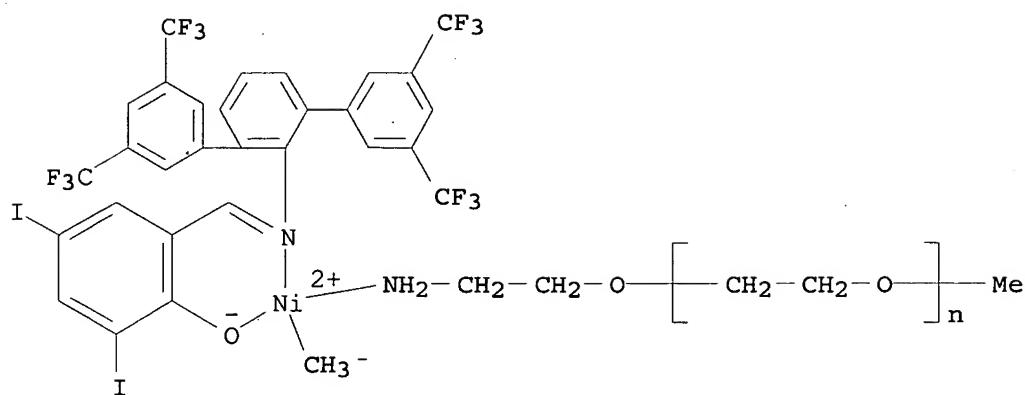
FILE LAST UPDATED: 12 Dec 2007 (20071212/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 140 ibib abs hitstr hitind 1-8

L40 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2007 ACS.on STN  
 ACCESSION NUMBER: 2007:128862 HCAPLUS  
 DOCUMENT NUMBER: 146:462351  
 TITLE: Nickel(II)-Methyl Complexes with Water-Soluble Ligands L [(salicylaldiminato- $\kappa$ 2N,O)NiMe(L)] and Their Catalytic Properties in Disperse Aqueous Systems  
 AUTHOR(S): Korthals, Brigitte; Goettker-Schnetmann, Inigo; Mecking, Stefan  
 CORPORATE SOURCE: Lehrstuhl fuer Chemische Materialwissenschaft, Fachbereich Chemie, Universitaet Konstanz, Konstanz, D-78457, Germany  
 SOURCE: Organometallics (2007), 26(6), 1311-1316  
 CODEN: ORGND7; ISSN: 0276-7333  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 146:462351  
 AB Neutral (salicylaldiminato)nickel(II) Me complexes [ $\{6\text{-C(H)}:\text{NAr-2,4-I}2\text{C}6\text{H}2\text{O-}\kappa$ 2N,O]NiMe(L)] (Ar = 2,6-{3,5-(F3C)2C6H3}2C6H3) with different water-soluble ligands L (2a, L = 1,3,5-triaza-7-phosphadamantane; 2b, L = hexamethylenetetramine (urotropine); 2c, L = tetraethylammonium pyridine-3-sulfonate; 2d, L = amino-terminated poly(ethylene glycol) monomethoxy ether) were prepared 2A-d are potentially water-soluble catalyst precursors for ethylene polymerization, which form a water-insol. active site [ $\{\kappa$ 2-N,O]NiR(ethylene)] (R = growing chain). Only complex 2d was water-soluble (>2 mmol L-1); 2c is soluble in water/2-propanol mixts. In toluene as a reaction medium, only the relatively weakly coordinated tertiary amine complex 2b is polymerization active (1.7 + 104 TO). In aqueous systems 2c,d are also active due to compartmentalization of the active site in the polymer particles and of L in the aqueous phase. Polyethylene particle sizes vary from 18 nm (dispersions formed with 2d) to over 0.5  $\mu$ m (2c) to suspensions (2b) depending on the initial state of the reaction mixture, correlated with catalyst solubility  
 IT 900531-15-9  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)  
 RN 900531-15-9 HCAPLUS  
 CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -methyl- $\omega$ -hydroxy-, ether with [2-(amino- $\kappa$ N)ethanol] [2,4-diido-6-[[[3,3'',5,5'''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O]nickel (1:1) (CA INDEX NAME)



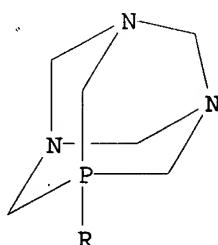
IT 934843-93-3P 934843-94-4P 934843-96-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
(Preparation); USES (Uses)(preparation and ethylene polymerization catalytic activity of  
salicylaldiminato nickel Me complexes with water-soluble ligands)

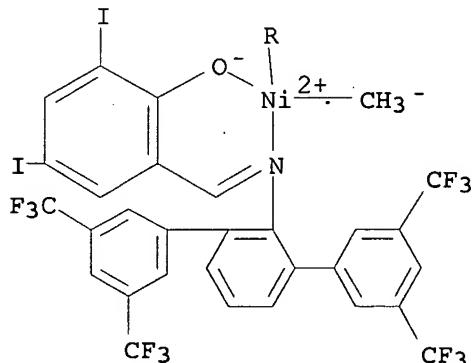
RN 934843-93-3 HCPLUS

CN Nickel, [2,4-diiodo-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':  
3',1''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato-  
 $\kappa$ O)methyl(1,3,5-triaza-7-phosphatricyclo[3.3.1.13,7]decane-  
 $\kappa$ P7)-, (SP-4-3)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

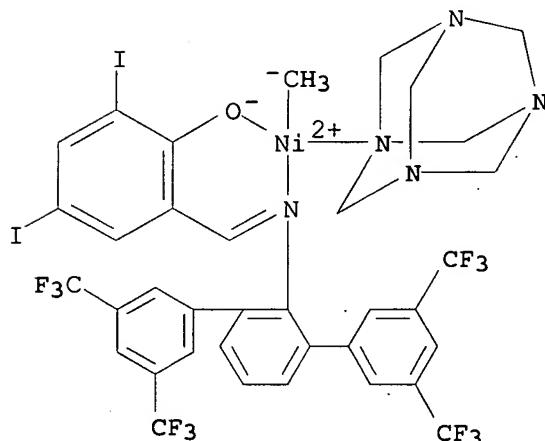


RN 934843-94-4 HCPLUS

MHuang REM4B31

12/13/2007

CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3'',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl(1,3,5,7-tetraazatricyclo[3.3.1.1.3,7]decane- $\kappa$ N1)-, (SP-4-4)- (CA INDEX NAME)



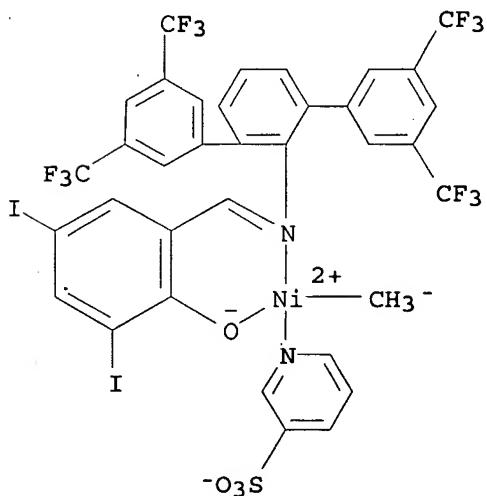
RN 934843-96-6 HCAPLUS

CN Ethanaminium, N,N,N-triethyl-, (SP-4-4)-[2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl(3-pyridinesulfonato- $\kappa$ N1)nickelate(1-) (1:1) (CA INDEX NAME)

CM 1

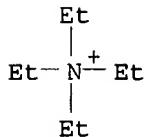
CRN 934843-95-5

CMF C35 H19 F12 I2 N2 Ni O4 S  
CCI CCS



CM 2

CRN 66-40-0  
CMF C8 H20 N



- CC 29-13 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s) : 35
- ST salicylaldiminato nickel methyl water soluble ligand complex prepn catalyst; polymer catalyst salicylaldiminato nickel methyl water soluble ligand complex
- IT Polymerization  
Polymerization catalysts  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- IT 900531-15-9  
RL: CAT (Catalyst use); USES (Uses)  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- IT 934843-93-3P 934843-94-4P 934843-96-6P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- IT 74-85-1, Ethylene, reactions 100-97-0, Urotropine, reactions 636-73-7, 3-Pyridinesulfonic acid 53597-69-6, 1,3,5-Triaza-7-phosphaadamantane 122905-76-4 667938-70-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- IT 934843-92-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- IT 76-59-5, Bromothymol blue  
RL: RGT (Reagent); RACT (Reactant or reagent)  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- IT 9002-88-4P, Polyethylene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and ethylene polymerization catalytic activity of salicylaldiminato nickel Me complexes with water-soluble ligands)
- REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 2 OF 8 HCPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2006:766770 HCPLUS  
DOCUMENT NUMBER: 145:377582  
TITLE: Aqueous Dispersions of Polypropylene and Poly(1-butene) with Variable Microstructures Formed with Neutral Nickel(II) Complexes  
AUTHOR(S): Wehrmann, Peter; Mecking, Stefan

CORPORATE SOURCE: Fachbereich Chemie, Universitaet Konstanz,  
 Konstanz, D-78457, Germany  
 SOURCE: Macromolecules (2006), 39(18), 5963-5964  
 CODEN: MAMOBX; ISSN: 0024-9297  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

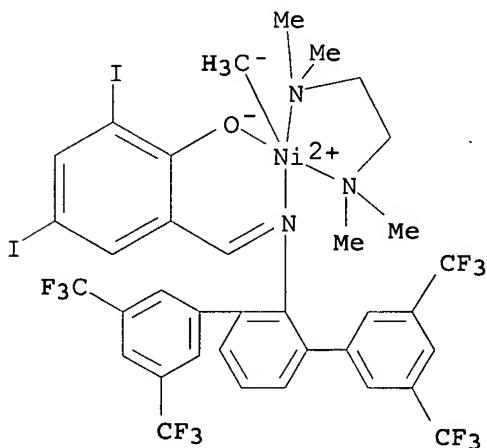
AB Polymerization of 1-olefins in the presence of neutral Ni(II) complexes in aqueous emulsions gave poly(1-olefin) dispersions. Microstructure analyses reveal that insertion occurs in primary alkyls exclusively, formed by 1,2- and 2,1-insertion, and subsequent chain running. 2,1-Insertion was unambiguously shown for a neutral Ni(II) polymerization catalyst for the first time. Microstructures can be varied by control of the chain running capacity of the catalyst via remote substituents of the salicylaldimine ligand.

IT 869902-26-1 910919-40-3 910919-41-4

RL: CAT (Catalyst use); USES (Uses)  
 (aqueous dispersions of polypropylene and  
 polybutene with variable microstructures formed with neutral  
 nickel complexes)

RN 869902-26-1 HCPLUS

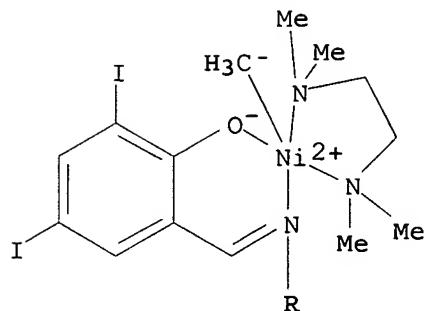
CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':  
 3'',1''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato-  
 $\kappa$ O)methyl(N,N,N',N'-tetramethyl-1,2-ethanediamine-  
 $\kappa$ N, $\kappa$ N')- (9CI) (CA INDEX NAME)



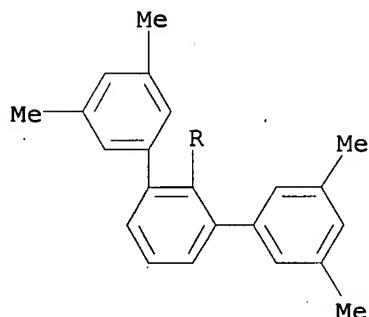
RN 910919-40-3 HCPLUS

CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetramethyl[1,1':3',1''-  
 terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato-  
 $\kappa$ O)methyl(N,N,N',N'-tetramethyl-1,2-ethanediamine-  
 $\kappa$ N, $\kappa$ N')- (9CI) (CA INDEX NAME)

PAGE 1-A

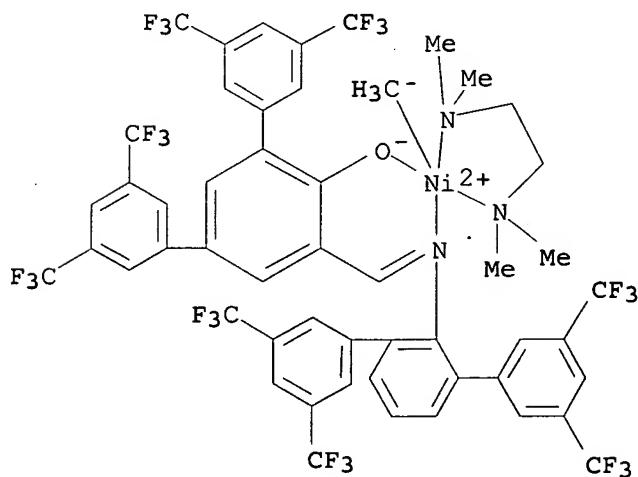


PAGE 2-A



RN 910919-41-4 HCPLUS

CN Nickel, methyl[5'-([[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1''-terphenyl]-2'-yl]imino- $\kappa$ N)methyl]-3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1''-terphenyl]-4'-olato- $\kappa$ O](N,N,N',N'-tetramethyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N')- (9CI) (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)

ST nickel complex catalyst polymer polypropylene polybutene

IT prep  
**Polymerization catalysts**  
 (aqueous dispersions of polypropylene and  
 polybutene with variable microstructures formed with neutral  
 nickel complexes)  
 IT 869902-26-1 910919-40-3 910919-41-4  
 RL: CAT (Catalyst use); USES (Uses)  
 (aqueous dispersions of polypropylene and  
 polybutene with variable microstructures formed with neutral  
 nickel complexes)  
 IT 9003-07-0P, Polypropylene 9003-28-5P, Poly(1-butene)  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (aqueous dispersions of polypropylene and  
 polybutene with variable microstructures formed with neutral  
 nickel complexes)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L40 ANSWER 3 OF 8 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:766765 HCPLUS

DOCUMENT NUMBER: 145:377603

TITLE: Copolymerization of Ethylene with 1-Butene and  
 Norbornene to Higher Molecular Weight Copolymers  
 in Aqueous Emulsion

AUTHOR(S): Wehrmann, Peter; Zuideveld, Martin; Thomann,  
 Ralf; Mecking, Stefan

CORPORATE SOURCE: Fachbereich Chemie, Universitaet Konstanz,  
 Konstanz, D-78457, Germany

SOURCE: Macromolecules (2006), 39(18), 5995-6002  
 CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

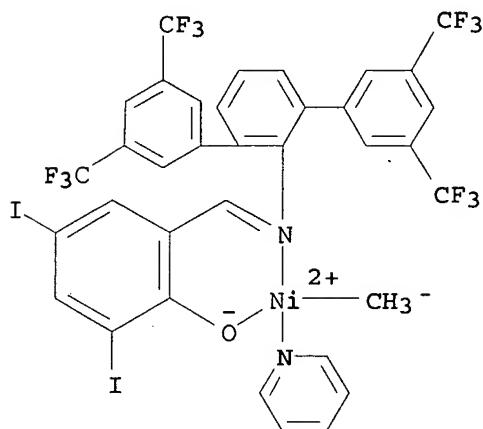
AB Ethylene/norbornene and ethylene/1-butene copolymer with nickel(II)  
 salicylaldiminato complexes [ $\kappa^2\text{-N},\text{O-6-C(H)}:\text{N}(2,\text{6-R}2\text{C}6\text{H}3)\text{-2,4-}$   
 $\text{R}'\text{2C}6\text{H}2\text{O}\text{NiMe(pyridine)}$ ] (1a, R = 3,5-Me2C6H3, R' = I; 1b, R,R' =  
 3,5-(F3C)2C6H3; 1c, R = 3,5-(F3C)2C6H3, R' = I; 2, R = iPr, R' = I)  
 were studied in toluene as a reaction medium and in emulsion  
 , the latter affording polymer dispersions. High mol. weight  
 copolymers ( $M_n > 104 \text{ g mol}^{-1}$ ) are formed. Incorporation of ethylene  
 is much preferred over butene incorporation, XBu/xBu .apprx.0.05  
 under typical reaction conditions, by comparison incorporation of  
 the strained olefin norbornene is higher, XNB/xNB .apprx.0.25 (X =  
 comonomer mole fraction in polymer; x = comonomer mole fraction in  
 reaction mixture). Dispersions contained copolymers with up  
 to 6 mol % comonomer (12 weight % for 1-butene; 20 weight % for  
 norbornene). Incorporation of a few mol. % of norbornene strongly  
 decreases polymer crystallinity, which enhances the film forming  
 properties of dispersions. Microstructure anal. by  $^{13}\text{C}$   
 NMR shows that butene is incorporated in a 1,2-, 1,3- and  
 1,4-fashion. Whether 1,2- or 1,3-incorporation is predominant  
 depends on the catalyst (nature of R).

IT 680185-26-6 680185-29-9

RL: CAT (Catalyst use); USES (Uses)  
 (polymerization catalysts; copolymer of ethylene with 1-butene  
 and norbornene to higher mol. weight copolymers in aqueous  
 emulsion)

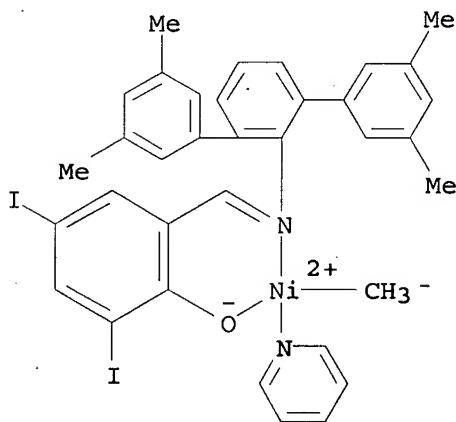
RN 680185-26-6 HCPLUS

CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl(pyridine)-, (SP-4-4)- (9CI) (CA INDEX NAME)



RN 680185-29-9 HCPLUS

CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetramethyl[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl(pyridine)-, (SP-4-4)- (9CI) (CA INDEX NAME)

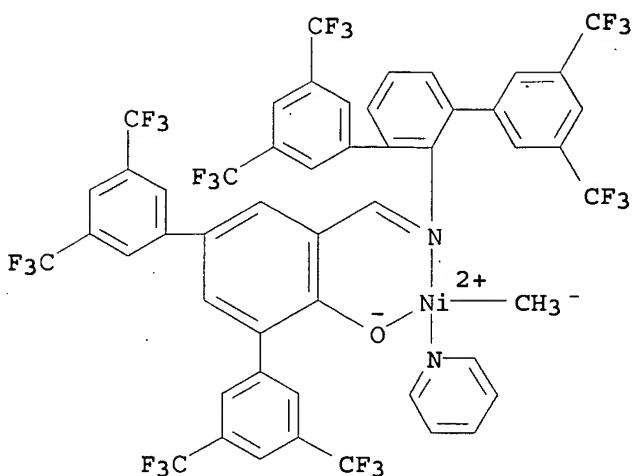


IT 910858-45-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(polymerization catalysts; copolyrn. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)

RN 910858-45-6 HCPLUS

CN Nickel, methyl(pyridine)[5'-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]-3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-4'-olato- $\kappa$ O-, (SP-4-4)- (9CI) (CA INDEX NAME)



- CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 29, 36
- IT Crystallinity  
Melting point  
Molecular weight  
Molecular weight distribution  
Polymer morphology  
(characterization of ethylene copolymers with 1-butene and norbornene made in aqueous emulsion)
- IT Polymerization catalysts  
(coordination complex; in copolymer. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)
- IT Latex  
(copolymer. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)
- IT 25087-34-7P, 1-Butene-ethylene copolymer 26007-43-2P,  
Ethylene-norbornene copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(copolymer. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)
- IT 2631-77-8, 3,5-Diodosalicylaldehyde 73852-19-4,  
3,5-Bis(trifluoromethyl)phenylboronic acid 122905-76-4,  
Dimethyl(N,N',N',N'-tetramethylethylenediamine)nickel 667938-69-4,  
2,6-Bis(3,5-bis(trifluoromethyl)phenyl)aniline  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(copolymer. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)
- IT 910858-46-7P 910858-47-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(copolymer. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)
- IT 332951-99-2 680185-26-6 680185-29-9  
RL: CAT (Catalyst use); USES (Uses)  
(polymerization catalysts; copolymer. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)
- IT 910858-45-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (polymerization catalysts; copolyrn. of ethylene with 1-butene and norbornene to higher mol. weight copolymers in aqueous emulsion)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L40 ANSWER 4 OF 8 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:495729 HCPLUS

DOCUMENT NUMBER: 145:167619

TITLE: Water-Soluble Salicylaldiminato Ni(II)-Methyl Complexes: Enhanced Dissociative Activation for Ethylene Polymerization with Unprecedented Nanoparticle Formation

AUTHOR(S): Goettker-Schnetmann, Inigo; Korthals, Brigitte; Mecking, Stefan

CORPORATE SOURCE: Fachbereich Chemie, Universitaet Konstanz, Konstanz, D-78457, Germany

SOURCE: Journal of the American Chemical Society (2006), 128(24), 7708-7709

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:167619

AB Water-soluble single-component ( $\kappa^2$ -N,O)-salicylaldiminato Ni-Me complexes having ligands tri(sodium phenylsulfonate)phosphine, di(sodium phenylsulfonate)phenylphosphine (I), and H<sub>2</sub>N(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>Me (II) catalyzed the polymerization of ethylene under organic solvent-free aqueous conditions producing high-mol.-weight polyethylene with particle sizes <10 nm. Amphiphilic I- and II-complexes exhibited a polymerization activity in water higher than that in toluene. A solvation-favored activation of precatalysts by equilibrium dissociation of ligands in aqueous solution likely accounted for this enhanced polymerization activity. The observed generation of a given particle by a single active site was an unprecedented mechanism for formation of aqueous particle dispersions.

IT 900531-09-1P 900531-10-4P 900531-11-5P

900531-12-6P 900531-13-7P 900531-14-8P

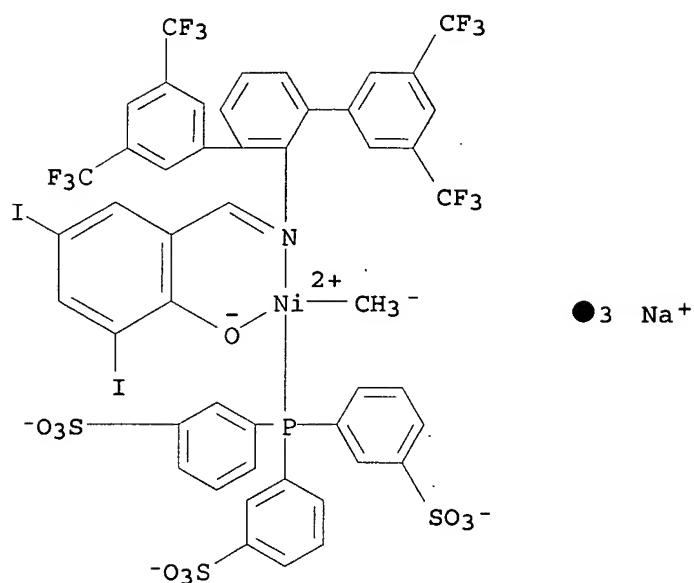
900531-15-9P 900531-16-0P 900531-17-1P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

RN 900531-09-1 HCPLUS

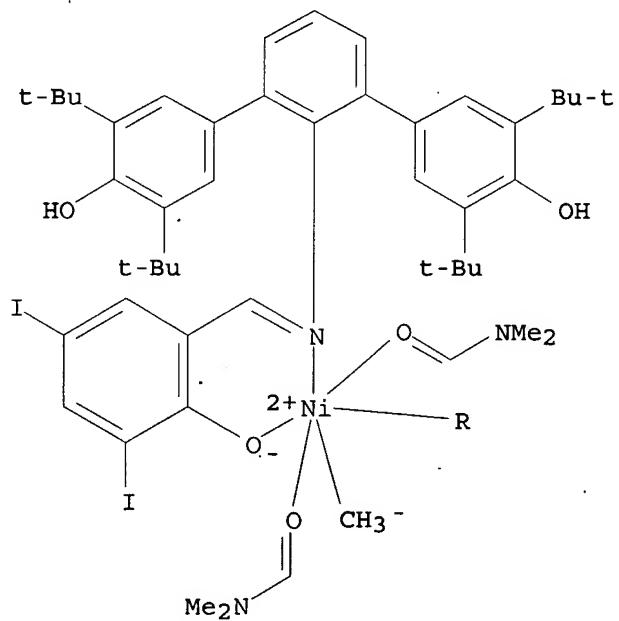
CN Nickelate(3-), [2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl[[3,3',3'''-(phosphinidyne- $\kappa$ P)tris[benzenesulfonato]](3-)]-, trisodium (9CI) (CA INDEX NAME)



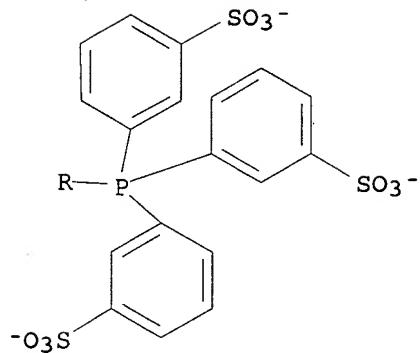
RN 900531-10-4 HCAPLUS

CN Nickelate(3-), bis(N,N-dimethylformamide-κO)methyl[[3,3',3'''-(phosphinidyne-κP)tris[benzenesulfonato]](3-)][3,3'',5,5'''-tetrakis(1,1-dimethylethyl)-2'-[[[2-(hydroxy-κO)-3,5-diiodophenyl]methylene]amino-κN][1,1':3',1'''-terphenyl]-4,4'''-diolato]-, trisodium (9CI) (CA INDEX NAME)

PAGE 1-A



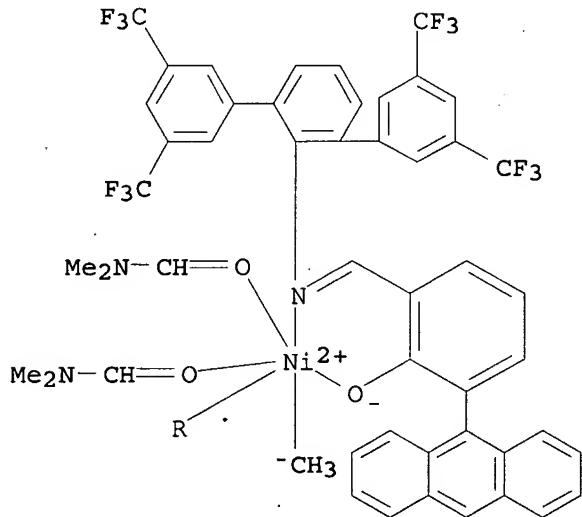
PAGE 2-A

● 3  $\text{Na}^+$ 

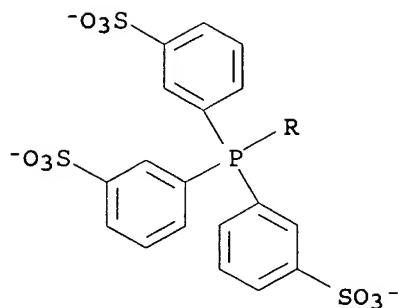
RN 900531-11-5 HCPLUS

CN Nickelate(3-), [2-(9-anthracyl)-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa\text{N}$ ]methylphenolato- $\kappa\text{O}$ ]bis(N,N-dimethylformamide- $\kappa\text{O}$ )methyl[[3,3',3'''-(phosphinidyne- $\kappa\text{P}$ )tris[benzenesulfonato]](3-)]-, trisodium (9CI) (CA INDEX NAME)

PAGE 1-A



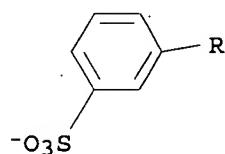
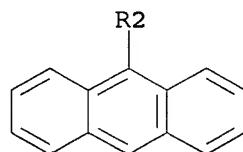
PAGE 2-A

● 3  $Na^+$ 

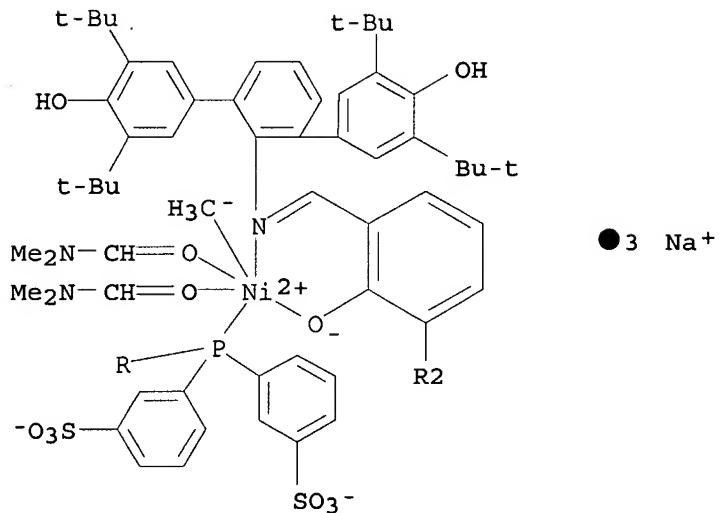
RN 900531-12-6 HCPLUS

CN Nickelate(3-), [2'-[[[3-(9-anthracyl)-2-(hydroxy- $\kappa O$ )phenyl]methylene]amino- $\kappa N]-3,3'',5,5''-tetrakis(1,1-dimethylethyl)[1,1':3',1'''-terphenyl]-4,4'''-diolato]bis(N,N-dimethylformamide- $\kappa O$ )methyl[[3,3',3'''-(phosphinidyne- $\kappa P$ )tris[benzenesulfonato]](2-)]-, trisodium (9CI) (CA INDEX NAME)$

PAGE 1-A

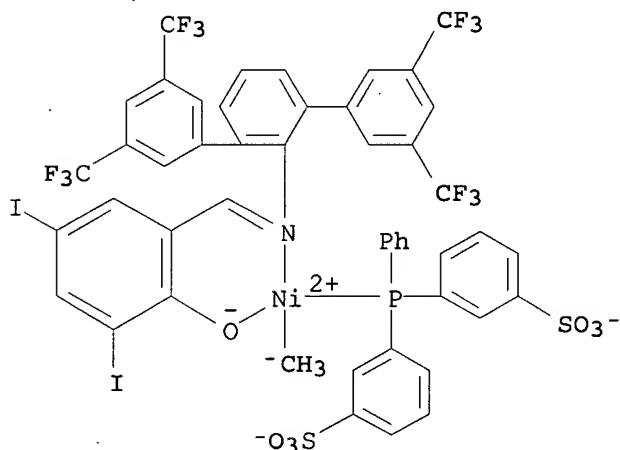


PAGE 2-A



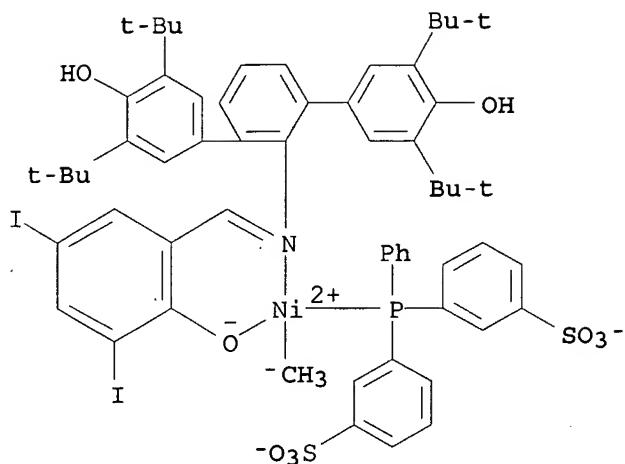
RN 900531-13-7 HCAPLUS

CN Nickelate(2-), [2,4-diiodo-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1''-terphenyl]-2'-yl]imino- $\kappa\text{N}$ ]methylphenolato- $\kappa\text{O}$ ]methyl[[3,3'-(phenylphosphinidene- $\kappa\text{P}$ )bis[benzenesulfonato]](2-)]-, disodium (9CI) (CA INDEX NAME)

 $\bullet 2 \text{ Na}^+$ 

RN 900531-14-8 HCAPLUS

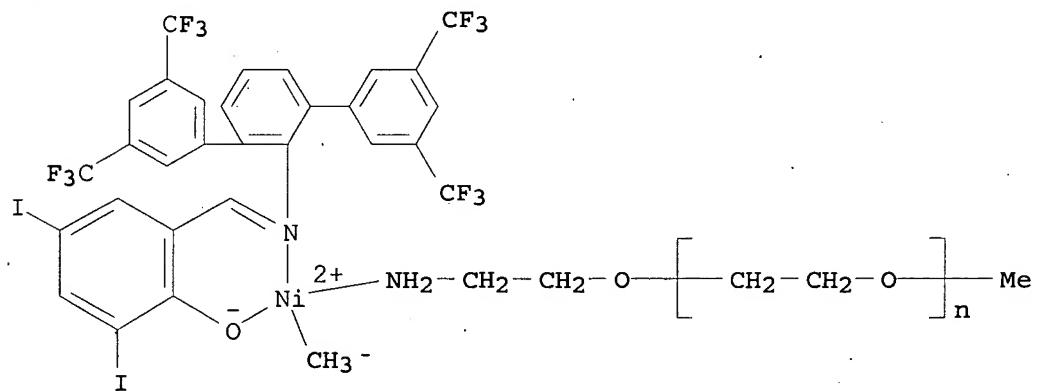
CN Nickelate(2-), methyl[[3,3'-(phenylphosphinidene- $\kappa\text{P}$ )bis[benzenesulfonato]](2-)][3,3'',5,5''-tetrakis(1,1-dimethylethyl)-2'-[[2-(hydroxy- $\kappa\text{O}$ )-3,5-diiodophenyl]methylen]amino- $\kappa\text{N}$ ][1,1':3',1''-terphenyl]-4,4'''-diolato]-, disodium (9CI) (CA INDEX NAME)



● 2 Na<sup>+</sup>

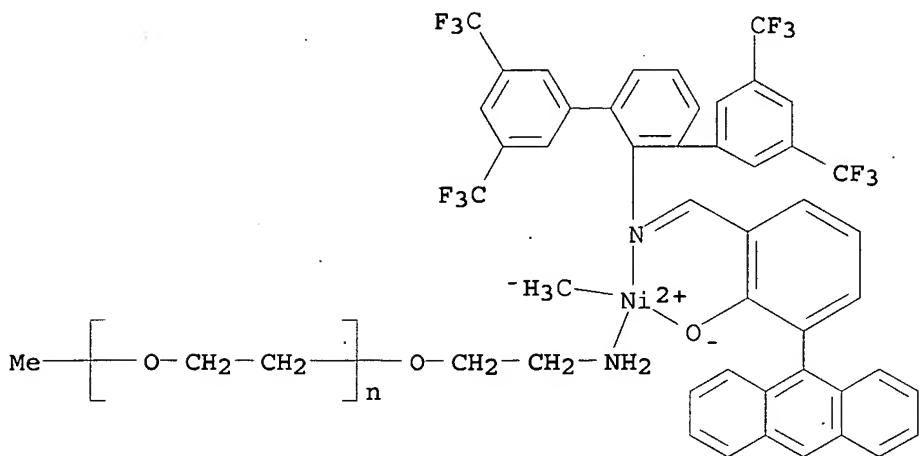
RN 900531-15-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy-, ether with [2-(amino-κN)ethanol] [2,4-diido-6-[[[3,3'',5,5'''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino-κN]methyl]phenolato-κO]nickel (1:1) (CA INDEX NAME)



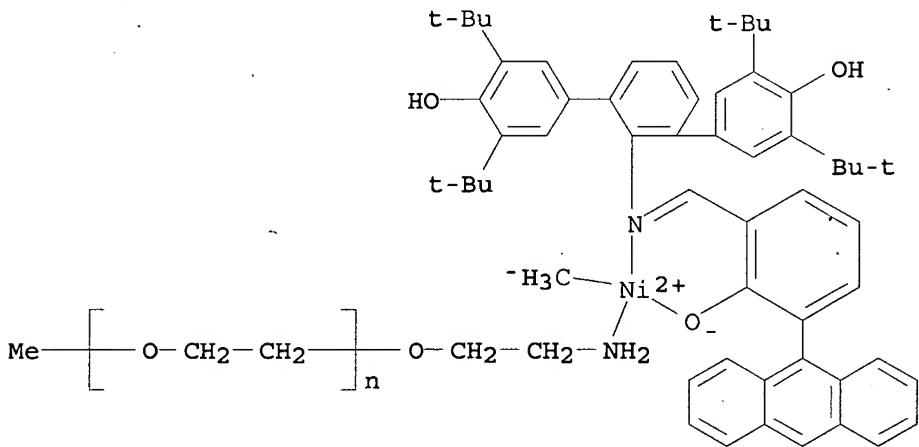
RN 900531-16-0 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-methyl-ω-hydroxy-, ether with [2-(amino-κN)ethanol] [2-(9-anthracyl)-6-[[[3,3'',5,5'''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino-κN]methyl]phenolato-κO)methylnickel (9CI) (CA INDEX NAME)



RN 900531-17-1 HCPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -methyl- $\omega$ -hydroxy-, ether with [2-(amino- $\kappa$ N)ethanol] [2'-[[[3-(9-anthracenyl)-2-(hydroxy- $\kappa$ O)phenyl]methylene]amino- $\kappa$ N]-3',3',5,5'-tetrakis(1,1-dimethylethyl)[1,1':3',1'''-terphenyl]-4,4'''-diolato]methylnickel (1:1) (9CI) (CA INDEX NAME)



CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 67

ST ethylene polymer catalyst salicylaldiminato nickel methyl complex

IT Ligands

RL: CAT (Catalyst use); USES (Uses)

(nickel complexes; salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

IT Dispersion (of materials)

Nanoparticles

Polymerization catalysts

(salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

IT Coordination compounds

RL: CAT (Catalyst use); USES (Uses)

(salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

IT 900531-09-1P 900531-10-4P 900531-11-5P  
 900531-12-6P 900531-13-7P 900531-14-8P  
 900531-15-9P 900531-16-0P 900531-17-1P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

IT 9002-88-4P, Polyethylene  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

IT 74-85-1, Ethylene, reactions 2631-77-8, 2-Hydroxy-3,5-diodobenzaldehyde 63995-70-0, TPPTS 64018-22-0, TPPDS 80506-64-5 122905-76-4 210096-14-3 667938-69-4 900531-18-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

IT 900531-19-3P 900531-20-6P 900531-21-7P 935656-32-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (salicylaldiminatomethylnickel complexes for ethylene polymerization with nanoparticle formation)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

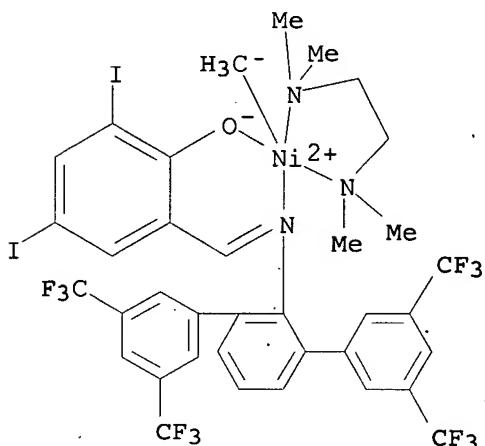
L40 ANSWER 5 OF 8 HCPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:1059417 HCPLUS  
 DOCUMENT NUMBER: 144:23148  
 TITLE: Possible Side Reactions Due to Water in Emulsion Polymerization by Late Transition Metal Complexes. 1. Water Complexation and Hydrolysis of the Growing Chain  
 Hristov, Iordan H.; DeKock, Roger L.; Anderson, Grant D. W.; Goettker-Schnetmann, Inigo; Mecking, Stefan; Ziegler, Tom  
 AUTHOR(S):  
 CORPORATE SOURCE: Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Can.  
 SOURCE: Inorganic Chemistry (2005), 44(22), 7806-7818  
 CODEN: INOCAJ; ISSN: 0020-1669  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The transition metal catalyzed ethylene polymerization in aqueous emulsion has been increasingly successful in the last couple of years. Water however adversely affects the polymerization process by (a) competing with ethylene for the binding site at the metal and (b) hydrolyzing the growing chain. Neutral salicylaldiminato and cationic diimine complexes of Ni and Pd with different substituent patterns are studied here by d. functional theory to determine their propensity toward water complexation and hydrolysis of the growing chain. Exptl. NMR studies have also been carried out on the protonolysis of the Ni(II)-based Grubbs catalyst. It is found that in general that (a) ethylene coordination is preferred over water coordination for both Ni and Pd catalysts and (b) hydrolysis of the metal alkyl bond is competitive to ethylene insertion.

IT 869902-26-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (protonolysis of; water complexation and hydrolysis of the  
 growing polyethylene chain as possible side reactions in ethylene  
 polymerization in aqueous emulsions with Grubbs  
 and Brookhart catalyst systems)

RN 869902-26-1 HCAPLUS

CN Nickel, [2,4-diiodo-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':  
 3',1'''-terphenyl]-2'-yl]imino-κN]methyl]phenolato-  
 κO)methyl(N,N,N',N'-tetramethyl-1,2-ethanediamine-  
 κN,κN')- (9CI) (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29, 78

ST nickel palladium salicylaldiminato diimine complex ethylene water  
 coordination competition; ethylene polymn aq  
 emulsion side reaction Grubbs Brookhart catalyst; quantum  
 mech calcn complexation energy water ethylene polymn

IT Polymerization

(emulsion; water complexation and hydrolysis of the  
 growing polyethylene chain as possible side reactions in ethylene  
 polymerization in aqueous emulsions with Grubbs  
 and Brookhart catalyst systems)

IT Complexation enthalpy

Density functional theory

Hydrolysis

Polymerization catalysts

Solvent effect

Transition state structure

(water complexation and hydrolysis of the growing polyethylene  
 chain as possible side reactions in ethylene polymerization in  
 aqueous emulsions with Grubbs and Brookhart  
 catalyst systems)

IT Transition metal complexes

RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical,  
 engineering or chemical process); PRP (Properties); PROC (Process);  
 USES (Uses)

(water complexation and hydrolysis of the growing polyethylene  
 chain as possible side reactions in ethylene polymerization in  
 aqueous emulsions with Grubbs and Brookhart  
 catalyst systems)

- IT 869902-26-1 870481-46-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (protonolysis of; water complexation and hydrolysis of the  
 growing polyethylene chain as possible side reactions in ethylene  
 polymerization in aqueous emulsions with Grubbs  
 and Brookhart catalyst systems)
- IT 870481-11-1  
 RL: CAT (Catalyst use); CPS (Chemical process); PEP (Physical,  
 engineering or chemical process); PRP (Properties); PROC (Process);  
 USES (Uses)  
 (water complexation and hydrolysis of the growing polyethylene  
 chain as possible side reactions in ethylene polymerization in  
 aqueous emulsions with Grubbs and Brookhart  
 catalyst systems)
- IT 181708-22-5 870481-12-2 870481-13-3 870481-14-4 870481-15-5  
 870481-16-6 870481-17-7 870481-18-8 870481-19-9 870481-20-2  
 870481-21-3 870481-22-4 870481-23-5 870481-24-6 870481-25-7  
 870481-26-8 870481-27-9 870481-28-0 870481-29-1 870481-30-4  
 870481-31-5 870481-32-6 870481-33-7 870481-34-8 870481-35-9  
 870481-36-0 870481-37-1 870481-38-2 870481-39-3 870481-40-6  
 870481-41-7 870481-42-8 870481-43-9 870481-44-0 870481-45-1  
 RL: CAT (Catalyst use); PRP (Properties); USES (Uses)  
 (water complexation and hydrolysis of the growing polyethylene  
 chain as possible side reactions in ethylene polymerization in  
 aqueous emulsions with Grubbs and Brookhart  
 catalyst systems)
- IT 74-85-1, Ethylene, processes 7732-18-5, Water, processes  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); PROC (Process)  
 (water complexation and hydrolysis of the growing polyethylene  
 chain as possible side reactions in ethylene polymerization in  
 aqueous emulsions with Grubbs and Brookhart  
 catalyst systems)
- IT 9002-88-4P, Polyethylene  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (water complexation and hydrolysis of the growing polyethylene  
 chain as possible side reactions in ethylene polymerization in  
 aqueous emulsions with Grubbs and Brookhart  
 catalyst systems)
- REFERENCE COUNT: 85 THERE ARE 85 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L40 ANSWER 6 OF 8 HCPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:1039667 HCPLUS  
 DOCUMENT NUMBER: 144:7136  
 TITLE: A General Route to Very Small Polymer Particles  
 with Controlled Microstructures  
 AUTHOR(S): Monteil, Vincent; Wehrmann, Peter; Mecking,  
 Stefan  
 CORPORATE SOURCE: Fachbereich Chemie, Universitaet Konstanz,  
 Konstanz, D-78457, Germany  
 SOURCE: Journal of the American Chemical Society (2005),  
 127(42), 14568-14569  
 CODEN: JACSAT; ISSN: 0002-7863  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 144:7136  
 AB A catalytic synthesis of previously inaccessible very small polymer

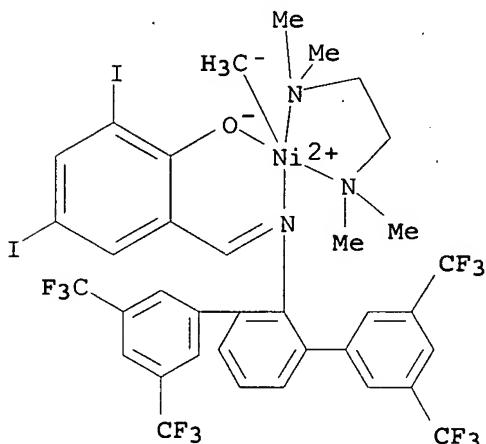
particles by means of catalyst microemulsion was reported. Known water-soluble lipophilic catalysts were employed. Very small polymer particles of 10-30 nm size with various microstructures (polyethylene, syndiotactic 1,2-polybutadiene, poly(cycloolefins)) are prepared by catalytic polymerization with aqueous catalyst microemulsion.

IT 869902-26-1

RL: CAT (Catalyst use); USES (Uses)

(general route to very small polymer particles with controlled microstructures via catalytic polymerization with aq catalyst microemulsion.)

RN 869902-26-1 HCPLUS

CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl) [1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl(N,N,N',N'-tetramethyl-1,2-ethanediamine- $\kappa$ N, $\kappa$ N')- (9CI) (CA INDEX NAME)

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

ST polymer particle controlled microstructure; polycycloolefin small particle controlled microstructure; syndiotactic polybutadiene small particle controlled microstructure; polyethylene particle controlled microstructure catalyst microemulsion; polymn olefin water sol lipophilic catalyst

IT Surfactants

(anionic; general route to very small polymer particles with controlled microstructures via catalytic polymerization with aqueous catalyst microemulsion.)

IT Surfactants

(cationic; general route to very small polymer particles with controlled microstructures via catalytic polymerization with aqueous catalyst microemulsion.)

IT Polymerization catalysts

(emulsion, water soluble lipophilic; general route to very small polymer particles with controlled microstructures via catalytic polymerization with aqueous catalyst microemulsion.)

IT Molecular weight distribution

Particle size

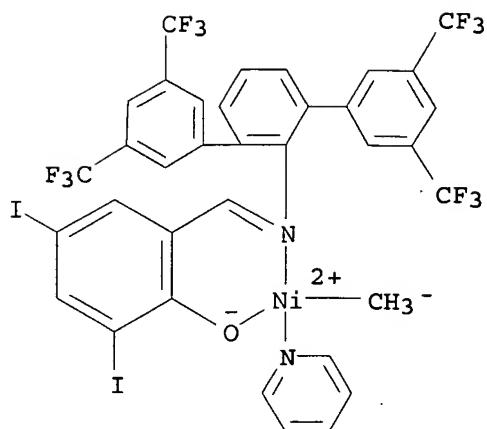
Particle size distribution

(general route to very small polymer particles with controlled

- microstructures via catalytic polymerization with aq  
. catalyst microemulsion.)
- IT Polyalkenamers  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (general route to very small polymer particles with controlled  
 microstructures via catalytic polymerization with aq  
. catalyst microemulsion.)
- IT Polymer chains  
 (microstructure; general route to very small polymer particles  
 with controlled microstructures via catalytic polymerization  
 with aqueous catalyst microemulsion.)
- IT 12154-10-8  
 RL: CAT (Catalyst use); USES (Uses)  
 (carbon sulfide system; general route to very small polymer  
 particles with controlled microstructures via catalytic  
 polymerization with aqueous catalyst microemulsion.)
- IT 3117-61-1, Salicyl aldimine  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalyst precursor; general route to very small polymer  
 particles with controlled microstructures via catalytic  
 polymerization with aqueous catalyst microemulsion.)
- IT 118-75-2, Chloranil, reactions 603-35-0, Triphenylphosphine,  
 reactions 1295-35-8, Bis(1,5-Cyclooctadiene)nickel  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent);  
 USES (Uses)  
 (catalyst precursor; general route to very small polymer  
 particles with controlled microstructures via catalytic  
 polymerization with aqueous catalyst microemulsion.)
- IT 75-15-0, Carbon sulfide (CS<sub>2</sub>), uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (cobalt complex system; general route to very small polymer  
 particles with controlled microstructures via catalytic  
 polymerization with aqueous catalyst microemulsion.)
- IT 172222-30-9 246047-72-3 869902-26-1  
 RL: CAT (Catalyst use); USES (Uses)  
 (general route to very small polymer particles with controlled  
 microstructures via catalytic polymerization with aq  
. catalyst microemulsion.)
- IT 71-41-0, Pentanol, uses 151-21-3, SDS, surfactant, uses  
 1119-94-4, DTAB  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (general route to very small polymer particles with controlled  
 microstructures via catalytic polymerization with aq  
. catalyst microemulsion.)
- IT 9002-88-4P, Polyethylene 25038-76-0P, Polynorbornene 25267-51-0P  
 28702-45-6P, Poly(1-octene-1,8-diyl) 39366-06-8P 42813-64-9P,  
 Polynorbornene, sru  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (general route to very small polymer particles with controlled  
 microstructures via catalytic polymerization with aq  
. catalyst microemulsion.)
- IT 31567-90-5P, Syndiotactic polybutadiene  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (of 1,2-configuration; general route to very small polymer  
 particles with controlled microstructures via catalytic  
 polymerization with aqueous catalyst microemulsion.)
- IT 7732-18-5, Water, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (toluene mixture solvent; general route to very small polymer  
 particles with controlled microstructures via catalytic

IT 108-88-3, Toluene, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (water mixture solvent; general route to very small polymer  
 particles with controlled microstructures via catalytic  
 polymerization with aqueous catalyst microemulsion.)  
 REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L40 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:231121 HCAPLUS  
 DOCUMENT NUMBER: 141:23933  
 TITLE: Catalytic ethylene polymerization in  
 aqueous emulsion: catalyst  
 tailoring and synthesis of very small latex  
 particles  
 AUTHOR(S): Bastero, Amaia; Kolb, Ludmila; Wehrmann, Peter;  
 Bauers, Florian; Goettker-Schnetmann, Inigo;  
 Monteil, Vincent; Thomann, Ralf; Chowdhry,  
 Mubarik; Mecking, Stefan  
 CORPORATE SOURCE: Freiburger Materialforschungszentrum und  
 Institut fuer Makromolekulare Chemie der  
 Albert-Ludwigs-Universitaet, Freiburg, D-79104,  
 Germany  
 SOURCE: PMSE Preprints (2004), 90, 740-741  
 CODEN: PPMRA9; ISSN: 1550-6703  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal; (computer optical disk)  
 LANGUAGE: English  
 AB Salicylaldiminato complexes [(N-O)Ni(Me)(py)] with N-terphenyl-R  
 substituted ligands display high catalytic activity in  
 polymerization of ethylene. Unexpectedly, the nature of the  
 substituent R has a dramatic effect on mol. weight, branching, and  
 crystallinity of prepared polyethylenes. While a semicryst. high mol.  
 weight polyethylene was obtained when R = CF<sub>3</sub>, an electron-donating  
 group, e.g., R = Me led to low mol. weight, highly branched, completely  
 amorphous polyethylene. Reaction of tetrachlorobenzoquinone (TCBQ)  
 with water-soluble phosphines in water-miscible alc. solvent and  
 subsequent reaction with [Ni(cod)<sub>2</sub>] affords a hydrophilic catalyst,  
 for emulsion polymerization without any addnl. liquid  
 organic phase. Stable polyethylene (mol. weight w ca. 10 g/mol) latexes  
 with up to 13% solids content were obtained, without optimization;  
 the latexes are transparent or only slightly hazy, indicating a very  
 small particle size.  
 IT 680185-26-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymerization catalyst; structure and substituent effects of  
 nickel salicylaldiminato catalysts in ethylene polymerization  
 to obtain very small latex particles)  
 RN 680185-26-6 HCAPLUS  
 CN Nickel, [2,4-diiodo-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':  
 3'',1''-terphenyl]-2'-yl]imino-κN]methyl]phenolato-  
 κO)methyl(pyridine)-, (SP-4-4)- (9CI) (CA INDEX NAME)



- CC 35-3 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 67, 78
- ST nickel salicylaldiminato terphenyl substituent effect catalyst  
 emulsion polymer ethylene; polyethylene latex  
 crystallinity mol wt nickel complex hydrophilic catalyst
- IT Polymerization catalysts  
 (emulsion; structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)
- IT Substituent effects  
 (on catalyst activity; structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)
- IT Crystallinity  
 Hydrophilicity  
 Latex  
 Particle size  
 (structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)
- IT 118-75-2, Tetrachlorobenzoquinone, uses 603-35-0,  
 Triphenylphosphine, uses 1295-35-8, Bis(1,5-cyclooctadiene)nickel  
 RL: CAT (Catalyst use); USES (Uses)  
 (hydrophilic polymerization catalyst containing; structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)
- IT 122905-76-4, Dimethyl(N,N,N',N'-tetramethylethylenediamine)nickel  
 RL: CAT (Catalyst use); USES (Uses)  
 (in-situ polymerization catalyst precursor; structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)
- IT 680185-26-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymerization catalyst; structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)
- IT 9002-88-4P, Polyethylene  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (structure and substituent effects of nickel salicylaldiminato catalysts in ethylene polymerization to obtain very small latex particles)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE

FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L40 ANSWER 8 OF 8 HCPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:198241 HCPLUS  
 DOCUMENT NUMBER: 140:236209  
 TITLE: Procedure for the production of aqueous polymer dispersions by polymerization of olefins in the presence of transition metal complexes  
 PATENT ASSIGNEE(S): BASF A.-G., Germany  
 SOURCE: Ger. Offen., 18 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE              |
|---|------|----------|------------------|-------------------|
| DE 10240577   | A1   | 20040311 | DE 2002-10240577 | 200208<br>29      |
| WO 2004020478   | A1   | 20040311 | WO 2003-EP8091   | 200307<br>24      |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,<br>LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,<br>NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,<br>TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,<br>ZW |      |          |                  |                   |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,<br>BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,<br>EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,<br>SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,<br>NE, SN, TD, TG  |      |          |                  |                   |
| AU 2003250152   | A1   | 20040319 | AU 2003-250152   | 200307<br>24      |
| EP 1537150  | A1   | 20050608 | EP 2003-790811   | 200307<br>24      |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,<br>PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,<br>SK   |      |          |                  |                   |
| JP 2005536609   | T    | 20051202 | JP 2004-531814   | 200307<br>24      |
| US 2005250920   | A1   | 20051110 | US 2005-524216   | 200502<br>10      |
| PRIORITY APPLN. INFO.:  |      |          | DE 2002-10240577 | A<br>200208<br>29 |
|   |      |          | WO 2003-EP8091   | W<br>200307       |

OTHER SOURCE(S): MARPAT 140:236209

AB Aqueous polymer dispersions are manufactured by polymerization of olefins in the presence of complexes of Group 7-10 metals and azo or azomethine compds. having aromatic rings attach to both ends of the azo or azomethine group. A typical catalyst was manufactured by reaction of 2,6-bis[3,5-bis(trifluoromethyl)phenyl]anilin e with 3,5-diido-2-hydroxybenzaldehyde and complexation of the resulting salicylaldimine ligand with tetramethylethylenediaminedime thylnickel.

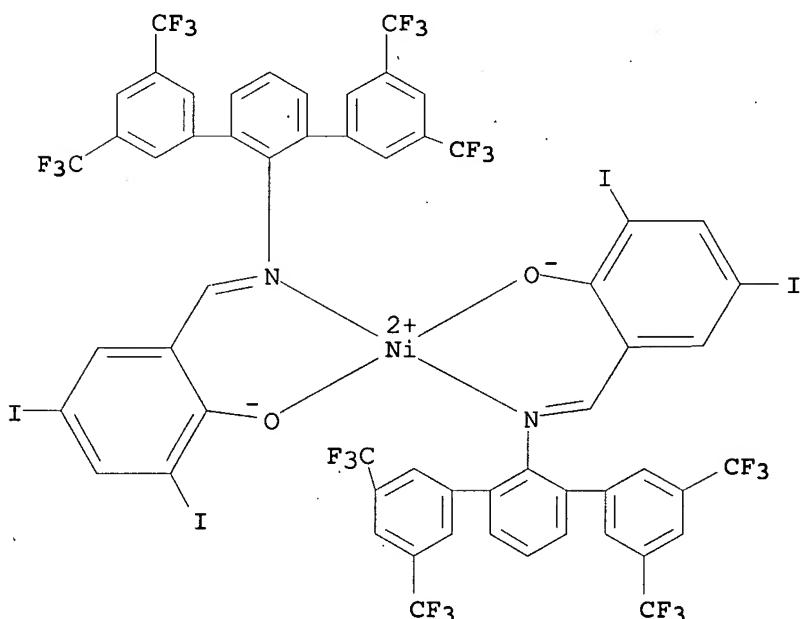
IT 667938-71-8P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

RN 667938-71-8 HCAPLUS

CN Nickel, bis[2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O] - (9CI) (CA INDEX NAME)



IC ICM C08F004-06

ICS C08F004-26; C08F002-16; C08F010-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

ST transition metal arom azo deriv complex catalyst olefin polymn; azomethine arom deriv transition metal complex catalyst olefin polymn; salicylaldimine deriv nickel complex catalyst manuf olefin polymn

IT Polymerization catalysts

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

IT Group VIIIB element complexes

## Group VIII element complexes

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

## IT Polyolefins

RL: IMF (Industrial manufacture); PREP (Preparation)

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

## IT Adhesives

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for adhesives)

## IT Carpets

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for carpet treatment)

## IT Leather

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for leather treatment)

## IT Paints

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for paints)

## IT Coating materials

## Paper

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for paper coatings)

## IT Pharmaceutical industry

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for pharmaceutical industry)

## IT Plastic foams

RL: MSC (Miscellaneous)

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for plastic foams)

## IT Textiles

(production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds. for textile treatment)

IT 87666-57-7P, 2,6-Diphenylaniline 667938-69-4P,  
2,6-Bis[3,5-bis(trifluoromethyl)phenyl]aniline

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(catalyst ligand precursor; production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

IT 98-80-6, Phenylboric acid 608-30-0, 2,6-Dibromoaniline  
2631-77-8, 3,5-Diodo-2-hydroxybenzaldehyde 274251-67-1,  
3,5-Bis(trifluoromethyl)phenylboric acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(catalyst ligand precursor; production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

- IT 667938-70-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (ligand; production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)
- IT 667938-71-8P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
 (production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)
- IT 9002-88-4P, Polyethylene  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (production of aqueous polyolefin dispersions by polymerization of olefins in presence of transition metal complexes of azo or azomethine compds.)

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*Only the first hit structure was displayed.*

L41 ANSWER 1 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2007:376022 HCPLUS  
 DOCUMENT NUMBER: 147:10032  
 TITLE: Syntheses and Ethylene Polymerization Behavior of Supported Salicylaldimine-Based Neutral Nickel(II) Catalysts  
 AUTHOR(S): Hu, Tao; Li, Yan-Guo; Liu, Jing-Yu; Li, Yue-Sheng  
 CORPORATE SOURCE: State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China  
 SOURCE: Organometallics (2007), 26(10), 2609-2615  
 CODEN: ORGND7; ISSN: 0276-7333  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 147:10032

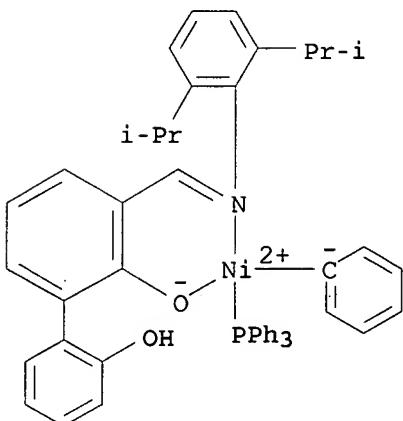
AB Two novel salicylaldimine-based neutral nickel(II) complexes, [(2,6-iPr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)N:CH(2-ArC<sub>6</sub>H<sub>3</sub>O)]Ni(PPh<sub>3</sub>)Ph (6, Ar = 2-(OH)C<sub>6</sub>H<sub>4</sub>; 8, Ar = 2-OH-3-(2,6-iPr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>N:CH)C<sub>6</sub>H<sub>3</sub>), have been synthesized, and their structures have also been confirmed by x-ray crystallog., elemental anal., and <sup>1</sup>H and <sup>13</sup>C NMR spectra. An important structural feature of the two complexes is the free hydroxyl group, which allows them to react with silica pretreated with trimethylaluminum under immobilization by the formation of a covalent bond between the neutral nickel(II) complex and the pretreated silica. As active single-component catalysts, the two complexes exhibited high catalytic activities up to 1.14 and 1.47 + 106 g PE/molNi·h for ethylene polymerization, resp., and yielded branched polymers. Requiring no cocatalyst, the two supported catalysts also showed relatively high activities up to 4.0 + 105 g PE/molNi·h and produced polyethylenes with high weight-average mol. wts. of up to 120 kg/mol and a moderate degree of branching (ca. 13-26 branches per 1000 carbon atoms).

IT 937808-87-2P  
 RL: CAT (Catalyst use); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(crystal structure; preparation, structural characterization, and ethylene polymerization behavior of silica supported salicylaldimine-based neutral nickel catalysts)

RN 937808-87-2 HCPLUS

CN Nickel, [3-[[[2,6-bis(1-methylethyl)phenyl]imino-  
κN]methyl][1,1'-biphenyl]-2,2'-diolato-  
κO<sub>2</sub>]phenyl(triphenylphosphine)-, (SP-4-3) - (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 35, 75

IT 937808-87-2P 937808-90-7P

RL: CAT (Catalyst use); PRP (Properties); RCT (Reactant); SPN  
(Synthetic preparation); PREP (Preparation); RACT (Reactant or  
reagent); USES (Uses)

(crystal structure; preparation, structural characterization, and  
ethylene polymerization behavior of silica supported  
salicylaldimine-based neutral nickel catalysts)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L41 ANSWER 2 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:345867 HCPLUS

DOCUMENT NUMBER: 146:521917

TITLE: Substituent effects in ( $\kappa^2\text{-N},\text{O}$ ) -

salicylaldiminato nickel(II)-methyl pyridine  
polymerization catalysts: terphenyls controlling  
polyethylene microstructures

AUTHOR(S): Goettker-Schnetmann, Inigo; Wehrmann, Peter;  
Roehr, Caroline; Mecking, Stefan

CORPORATE SOURCE: Fachbereich Chemie, Universitaet Konstanz,  
Konstanz, D-78457, Germany

SOURCE: Organometallics (2007), 26(9), 2348-2362  
CODEN: ORGND7; ISSN: 0276-7333

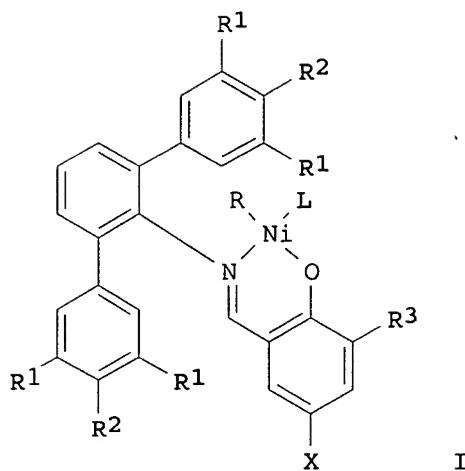
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 146:521917

GI



**AB** N-Terphenylyl iodo- and 9-anthracylphenyl salicylaldimines and their methyl- and phenylnickel pyridine complexes I were prepared and evaluated for the catalytic activity in ethene polymerization; the substitution of the terphenylyl group allows to control the polymer mol. weight, linearity and microstructure. A series of ( $\kappa^2$ -N,O)-salicylaldiminato Ni(II)-Me pyridine complexes I (7-pyr, R<sub>3</sub> = X = I, 8-pyr, R<sub>3</sub> = 9-anthracyl, X = H; R = Me, R<sub>1</sub> = CF<sub>3</sub>, tBu, Me, MeO, R<sub>2</sub> = H, OH, MeO) derived from 3,5-diiodosalicylaldehyde (3a) and 3-(9-anthryl)salicylaldehyde (3b), and terphenylamines 2,6-(3,5-R<sub>1</sub>-4-R<sub>2</sub>-C<sub>6</sub>H<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>-NH<sub>2</sub> (4a, R<sub>1</sub> = CF<sub>3</sub>, R<sub>2</sub> = H; 4b, R<sub>1</sub> = tBu, R<sub>2</sub> = H; 4c, R<sub>1</sub> = tBu, R<sub>2</sub> = OH; 4d, R<sub>1</sub> = Me, R<sub>2</sub> = H; 4e, R<sub>1</sub> = Me, R<sub>2</sub> = MeO; 4f, R<sub>1</sub> = MeO, R<sub>2</sub> = H; 4g, R<sub>1</sub> = MeO, R<sub>2</sub> = MeO), was prepared by reaction of the resp. salicylaldimine (5a-f, 6a-g) with [(tmada)NiMe<sub>2</sub>] (tmada = N,N,N',N'-tetramethylethylenediamine) or [(pyridine)<sub>2</sub>NiMe<sub>2</sub>]. Complexes 7-pyr and 8-pyr are highly active single component catalysts for the polymerization of ethylene, producing a wide range of different polyethylene microstructures. While comparable complexes derived from 3a, 3b, 5-nitrosalicylaldehyde, 3-tert-butylsalicylaldehyde, 3,5-[3,5-(CF<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>]<sub>2</sub>-salicylaldehyde, and 2,6-[3,5-(CF<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>]<sub>2</sub>C<sub>6</sub>H<sub>3</sub>-NH<sub>2</sub> afford polyethylenes with similar degrees of branching, variation of the terphenyl moieties in complexes 7-pyr and 8-pyr allows access to a wide range of polyethylene microstructures under identical reaction conditions. The x-ray diffraction analyses of complexes 7b-pyr and 8f-pyr are reported.

**IT** 936643-55-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

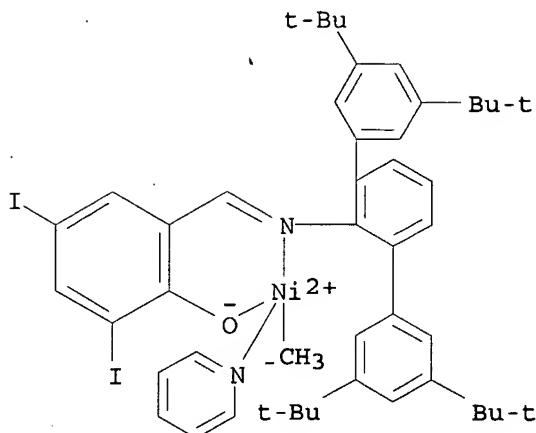
(crystal structure; preparation of nickel organometallic N-terphenylyl salicylaldimine Schiff base complexes as ethene polymerization catalysts and substituent effects on polymer microstructure)

**RN** 936643-55-9 HCPLUS

**CN** Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetrakis(1,1-dimethylethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato- $\kappa$ O)methyl(pyridine)-, (SP-4-4)-, compd. with benzene (2:3) (CA INDEX NAME)

CM 1

CRN 936643-54-8  
 CMF C47 H56 I2 N2 Ni O  
 CCI CCS



CM 2

CRN 71-43-2  
 CMF C6 H6



- CC 29-13 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 25, 35, 75
- IT 936643-55-9P 936643-64-0P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (crystal structure; preparation of nickel organometallic N-terphenylyl salicylaldimine Schiff base complexes as ethene polymerization catalysts and substituent effects on polymer microstructure)
- IT 936643-54-8P 936643-63-9P  
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (mol. structure; preparation of nickel organometallic N-terphenylyl salicylaldimine Schiff base complexes as ethene polymerization catalysts and substituent effects on polymer microstructure)
- IT 680185-26-6 680185-29-9 680185-30-2  
 910858-45-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation of nickel organometallic N-terphenylyl salicylaldimine Schiff base complexes as ethene polymerization catalysts and substituent effects on polymer microstructure)
- IT 936643-56-0P 936643-57-1P 936643-58-2P  
 936643-59-3P 936643-60-6P 936643-61-7P  
 936643-62-8P 936643-65-1P 936643-66-2P  
 936643-67-3P 936643-69-5P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP

## (Preparation); USES (Uses)

(preparation of nickel organometallic N-terphenylyl salicylaldimine Schiff base complexes as ethene polymerization catalysts and substituent effects on polymer microstructure)

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:829497 HCAPLUS

DOCUMENT NUMBER: 145:419500

TITLE: Catalytic ethylene polymerization in carbon dioxide as a reaction medium with soluble nickel(II) catalysts

AUTHOR(S): Bastero, Amaia; Francio, Giancarlo; Leitner, Walter; Mecking, Stefan

CORPORATE SOURCE: Lehrstuhl fur Chemische Materialwissenschaft, Universitaet Konstanz, Konstanz, 78457, Germany

SOURCE: Chemistry--A European Journal (2006), 12(23), 6110-6116

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:419500

AB A series of neutral NiII-salicylaldiminato complexes substituted with perfluoroctyl- and trifluoromethyl groups, were studied as catalyst precursors for ethylene polymerization in supercrit. CO<sub>2</sub>. Catalyst precursors 6a and 6c, which are soluble in scCO<sub>2</sub>, afford the highest polymer yields, corresponding to 2 x 10<sup>3</sup> turnovers. Semicryst. polyethylene (M<sub>n</sub> typically 10<sup>4</sup> gmol<sup>-1</sup>) is obtained with variable degrees of branching (11 to 24 branches per 1000 carbon atoms, predominantly Me branches) and crystallinity (54 to 21%), depending on the substitution pattern of the catalyst.

IT 680185-26-6

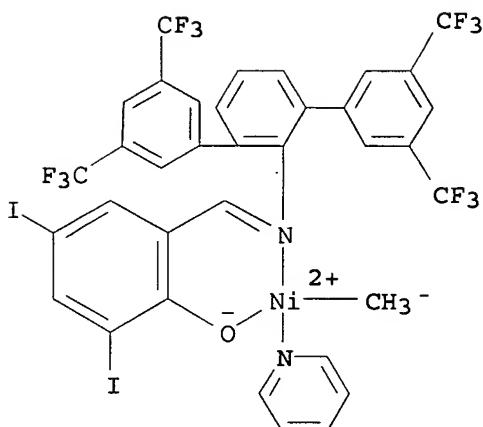
RL: CAT (Catalyst use); USES (Uses)

(polymerization catalyst; catalytic ethylene polymerization in carbon dioxide

as reaction medium with soluble nickel catalysts)

RN 680185-26-6 HCAPLUS

CN Nickel, [2,4-diido-6-[[[3,3'',5,5'''-tetrakis(trifluoromethyl)[1,1':3',1'''-terphenyl]-2'-yl]imino-κN]methyl]phenolato-κO)methyl(pyridine)-, (SP-4-4)- (9CI) (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 29, 78  
 IT 680185-26-6 910858-45-6  
 RL: CAT (Catalyst use); USES (Uses)  
 (polymerization catalyst; catalytic ethylene polymerization in carbon dioxide  
 as reaction medium with soluble nickel catalysts)  
 IT 912487-74-2P 912487-75-3P 912487-76-4P  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (polymerization catalyst; catalytic ethylene polymerization in carbon dioxide  
 as reaction medium with soluble nickel catalysts)  
 REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L41 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:480827 HCAPLUS  
 DOCUMENT NUMBER: 145:158314  
 TITLE: Structural, spectroscopic, and electrochemical behavior of trans-phenolato cobalt(III) complexes of asymmetric NN'O ligands as archetypes for metallomesogens  
 AUTHOR(S): Shakya, Rajendra; Imbert, Camille; Hratchian, Hrant P.; Lanznaster, Mauricio; Heeg, Mary Jane; McGarvey, Bruce R.; Allard, Marco; Schlegel, H. Bernhard; Verani, Claudio N.  
 CORPORATE SOURCE: Department of Chemistry, Wayne State University, Detroit, MI, 48202, USA  
 SOURCE: Dalton Transactions (2006), (21), 2517-2525  
 CODEN: DTARAF; ISSN: 1477-9226  
 PUBLISHER: Royal Society of Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 145:158314  
 AB To understand and predict structural, redox, magnetic, and optical properties of more complex and potentially mesogenic electroactive compds. such as [CoIII(Lt-BuLC)<sub>2</sub>]ClO<sub>4</sub> (1), five archetypical complexes [CoIII(LRA)<sub>2</sub>]ClO<sub>4</sub>, where R = H (2), tert-Bu (3), methoxy (4), nitro (5), and chloro (6), were obtained and studied by several spectrometric, spectroscopic, and electrochem. methods. The

complexes 2, 4, and 6 were characterized by single-crystal x-ray diffraction, and show the metal center in an approx. D<sub>2</sub>h symmetry. Exptl. results support the fact that the electron donating or withdrawing nature of the phenolate-appended substituents changes dramatically the redox and spectroscopic properties of these compds. The 3d<sub>6</sub> electronic configuration of the metal ion dominates the overall geometry adopted by these compds. with the phenolate rings occupying trans positions to one another. Formation of phenoxy radicals was observed for 1, 3, and 6, but irreversible ligand oxidation takes place upon bulk electrolysis. These data were compared to detailed B3LYP/6-31G (d)-level computational calcns. and were used to account for the results observed. A comparison between compound 1 and archetype 3, validates the approach of using archetypical models to study metal-containing soft materials.

IT 897922-31-5P

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(preparation, cyclic voltammetry, UV-visible spectrum and electronic structure from MO calcns. as model for cobalt  
(pyridinylmethylaminomethyl)phenol derivative complexes)

RN 897922-31-5 HCAPLUS

CN Cobalt(1+), [2,4-bis(1,1-dimethylethyl)-6-[[[(R)-[4'-(heptyloxy)[1,1'-biphenyl]-4-yl][(2-pyridinyl-κN)methyl]amino-κN]methyl]phenolato-κO][2,4-bis(1,1-dimethylethyl)-6-[[[(S)-[4'-(heptyloxy)[1,1'-biphenyl]-4-yl][(2-pyridinyl-κN)methyl]amino-κN]methyl]phenolato-κO]-, (OC-6-24)-, perchlorate (9CI) (CA INDEX NAME)

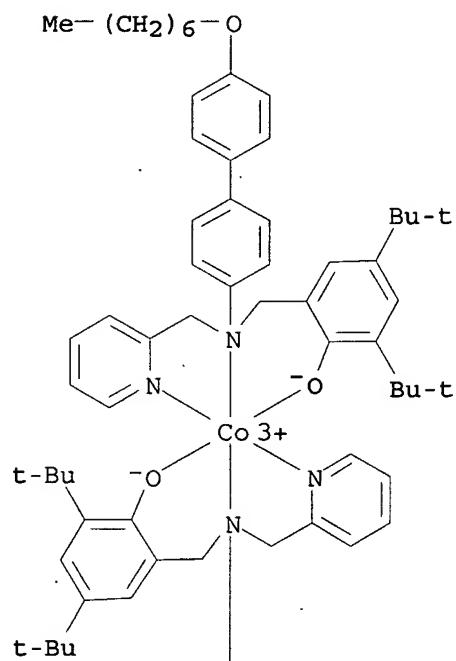
CM 1

CRN 897922-30-4

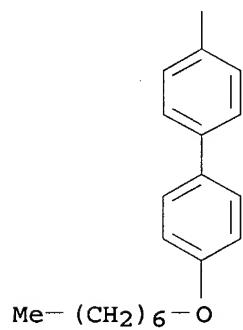
CMF C80 H102 Co N4 O4

CCI CCS

PAGE 1-A

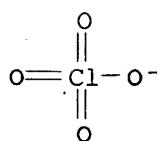


PAGE 2-A



CM 2

CRN 14797-73-0  
CMF Cl O4



CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 65, 72, 75  
 IT 897922-31-5P  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (preparation, cyclic voltammetry, UV-visible spectrum and electronic structure from MO calcns. as model for cobalt  
 (pyridinylmethylaminomethyl)phenol derivative complexes)  
 REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

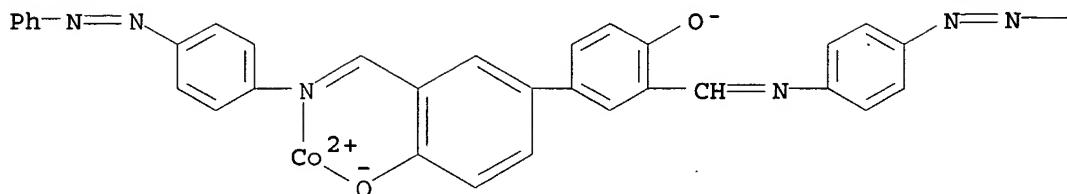
L41 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:396667 HCAPLUS  
 DOCUMENT NUMBER: 141:405121  
 TITLE: Synthesis and Characterization of Some Cobalt(II), Copper(II), and Nickel(II) Complexes with New Schiff Bases from the Reaction of p-Aminoazobenzene with Salicylaldehyde  
 AUTHOR(S): Peker, Esin; Serin, Selahattin  
 CORPORATE SOURCE: Faculty of Science and Arts, Department of Chemistry, Kahramanmaraş Suetcü Imam University, Kahramanmaraş, Turk.  
 SOURCE: Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry (2004), 34(5), 859-872  
 CODEN: SRIMCN; ISSN: 0094-5714  
 PUBLISHER: Marcel Dekker, Inc.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 141:405121

AB Two new Schiff bases were synthesized by the reaction of p-aminoazobenzene with salicylaldehyde ((p-salicylideneamino)azobenzene, L1H) and the oxidative polycondensation product of L1H in which the 5-positions of the salicylaldehyde rings are directly bonded (L2H2). The complexes of cobalt(II), copper(II), and nickel(II) with L1H and L2H2 were prepared. The ligands and their complexes were characterized by elemental analyses, IR spectra, electronic absorption spectra, mass spectra, 1H and 13C NMR spectra, and magnetic susceptibility measurements. The thermal properties of all complexes were studied by TG and DTA. The anal. data show that the metal to ligand ratio in the L1H complexes is 1:2, but in the oligomeric L2H2 complexes it is 1:1.

IT 787624-17-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (oligomeric; preparation of cobalt(II), copper(II) and nickel(II) mononuclear and oligomeric complexes of Schiff bases from aminoazobenzene and salicylaldehyde)

RN 787624-17-3 HCAPLUS  
 CN Cobalt, [3-[[[4-(phenylazo)phenyl]imino- $\kappa$ N]methyl]-3'-[[[4-(phenylazo)phenyl]imino]methyl][1,1'-biphenyl]-4,4'-diolato(2-) - $\kappa$ O4] - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— Ph

CC 78-7 (Inorganic Chemicals and Reactions)

IT 787624-17-3P 787624-18-4P 787624-19-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (oligomeric; preparation of cobalt(II), copper(II) and nickel(II)  
 mononuclear and oligomeric complexes of Schiff bases from  
 aminoazobenzene and salicylaldehyde)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L41 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:158319 HCAPLUS

DOCUMENT NUMBER: 140:339707

TITLE: Remote substituents controlling catalytic  
 polymerization by very active and robust neutral  
 nickel(II) complexes

AUTHOR(S): Zuiderveld, Martin A.; Wehrmann, Peter; Roehr,  
 Caroline; Mecking, Stefan

CORPORATE SOURCE: Institut fuer Makromolekulare Chemie und  
 Freiburger Material-forschungszentrum,  
 Albert-Ludwig-Universitaet Freiburg, Freiburg,  
 79104, Germany

SOURCE: Angewandte Chemie, International Edition (2004),  
 43(7), 869-873

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH &amp; Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

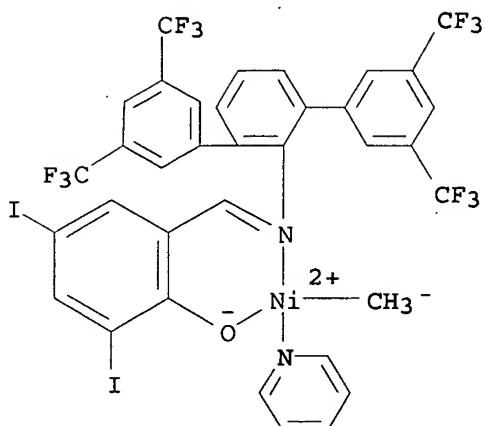
AB Remote control: Substituents strongly affect the catalytic  
 properties of complexes 1 in ethylene polymerization, despite their  
 remoteness from the active center. An appropriate substitution  
 pattern provides active and robust catalysts.

IT 680185-26-6P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic  
 preparation); PREP (Preparation); USES (Uses)  
 (crystal structure; prepsns. of robust neutral nickel(II)  
 complexes for catalytic ethylene polymerization)

RN 680185-26-6 HCAPLUS

CN Nickel, [2,4-diido-6-[[[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':  
 3',1'''-terphenyl]-2'-yl]imino- $\kappa$ N]methyl]phenolato-  
 $\kappa$ O]methyl(pyridine)-, (SP-4-4)- (9CI) (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 67, 75, 78

IT 680185-26-6P 680185-28-8P

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(crystal structure; preps. of robust neutral nickel(II) complexes for catalytic ethylene polymerization)

IT 332951-99-2P 680185-27-7P 680185-29-9P

680185-30-2P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preps. of robust neutral nickel(II) complexes for catalytic ethylene polymerization)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:459784 HCAPLUS

DOCUMENT NUMBER: 137:194513

TITLE: Synthesis, thermal, electrical and biological studies of some Schiff base complexes

AUTHOR(S): Bhave, N. S.; Bahad, P. J.; Sonparote, P. M.; Aswar, A. S.

CORPORATE SOURCE: Department of Chemistry, Nagpur University, Nagpur, 440 010, India

SOURCE: Journal of the Indian Chemical Society (2002), 79(4), 342-344

PUBLISHER: Indian Chemical Society  
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:194513

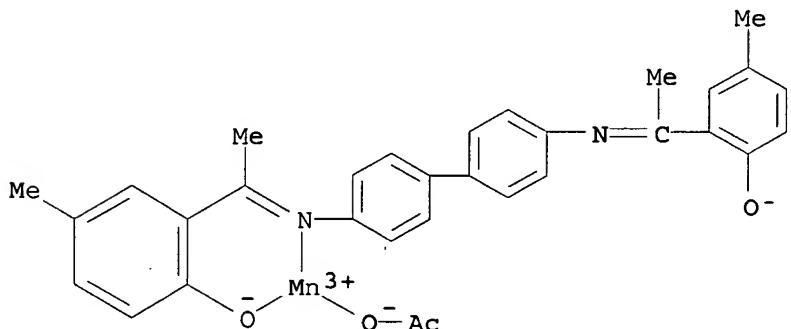
AB Complexes of CrIII, MnIII, FeIII and AlIII with Schiff bases derived from the 2:1 condensation of 2-hydroxy-5-methylacetophenone and 2-hydroxy-5-chloroacetophenone with p-phenylenediamine (H2L1/H2L2) were prepared. The antibacterial activities of the ligands and their complexes were evaluated. The kinetic parameters of decomposition also were evaluated by both Freeman-Carroll and Sharp-Wentworth methods. D.C. elec. conductivity of the complexes was studied.

IT 451491-21-7P

RL: BSU (Biological study, unclassified); PRP (Properties); RCT

(Reactant); SPN (Synthetic preparation); BIOL (Biological study);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (preparation, elec. conductivity, thermal decomposition kinetics and  
 antibacterial  
 activity of polymeric)

RN 451491-21-7 HCAPLUS  
 CN Manganese, (acetato- $\kappa$ O) [2-[1-[[4'-[[1-(2-hydroxy-5-methylphenyl)ethylidene]amino][1,1'-biphenyl]-4-yl]imino- $\kappa$ N]ethyl]-4-methylphenolato(2-)- $\kappa$ O] - (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 10, 67, 76  
 IT 451491-18-2P 451491-20-6P 451491-21-7P  
 451491-23-9P 451491-24-0P 451491-26-2P  
 451491-29-5P 451491-32-0P  
 RL: BSU (Biological study, unclassified); PRP (Properties); RCT  
 (Reactant); SPN (Synthetic preparation); BIOL (Biological study);  
 PREP (Preparation); RACT (Reactant or reagent)  
 (preparation, elec. conductivity, thermal decomposition kinetics and  
 antibacterial  
 activity of polymeric)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L41 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1994:644089 HCAPLUS  
 DOCUMENT NUMBER: 121:244089  
 TITLE: Mononuclear and binuclear iron(III) complexes of  
 (-N2O2-) tetridentate Schiff base ligands  
 Gaber, M.; Issa, R. M.; Ghoniem, M. M.;  
 El-Baradie, K. Y.  
 AUTHOR(S):  
 CORPORATE SOURCE: Fac. Sci., Tanta Univ., Tanta, Egypt  
 SOURCE: Egyptian Journal of Chemistry (1992), Volume  
 Date 1991, 34(2), 107-19  
 CODEN: EGJCA3; ISSN: 0367-0422  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The Fe<sup>3+</sup> chelates of some N2O2-Schiff bases, derived from  
 salicylaldehyde, 2,4-dihydroxybenzaldehyde or 2-hydroxy-1-  
 naphthaldehyde and aromatic diamines were studied by conductance  
 measurements to gain information about their probable stoichiometry.  
 The solid complexes were isolated and studied by TGA, IR, electronic  
 and ESR spectra, magnetic moment determination and elemental anal.  
 Mononuclear and binuclear complexes are formed. The Fe<sup>3+</sup> showed

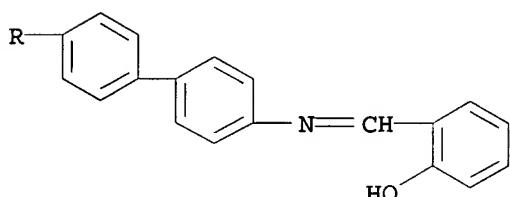
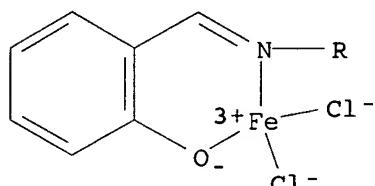
octahedral configuration. The values of the magnetic moments showed a possible antiferromagnetic effect.

IT 158334-13-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and IR spectra and thermal decomposition of)

RN 158334-13-5 HCAPLUS

CN Iron, [[2,2'-[[1,1'-biphenyl]-4,4'-diyl]bis(nitrilomethylidene)]bis[p-henolato]](1-)N,O)dichloro- (9CI) (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)

IT 122474-54-8P 122474-56-0P 137931-08-9P 137953-82-3P  
158334-04-4P 158334-08-8P 158334-09-9P 158334-10-2P  
158334-11-3P 158334-12-4P 158334-13-5P 158334-14-6P  
158334-15-7P 158334-16-8P 158334-17-9P 158334-18-0P  
158334-19-1P 158334-20-4P 158334-21-5P 158367-05-6P  
158367-06-7P 158367-07-8P 158367-08-9P 158367-09-0P  
158367-10-3P 158367-11-4P 158367-12-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and IR spectra and thermal decomposition of)

L41 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:423338 HCAPLUS

DOCUMENT NUMBER: 121:23338

TITLE: Synthesis and mesomorphic properties of some platinum(II) and oxovanadium(IV) complexes

AUTHOR(S): Sadashiva, B. K.; Ghode, Archana

CORPORATE SOURCE: Raman Res. Inst., Bangalore, 560080, India

SOURCE: Liquid Crystals (1994), 16(1), 33-42

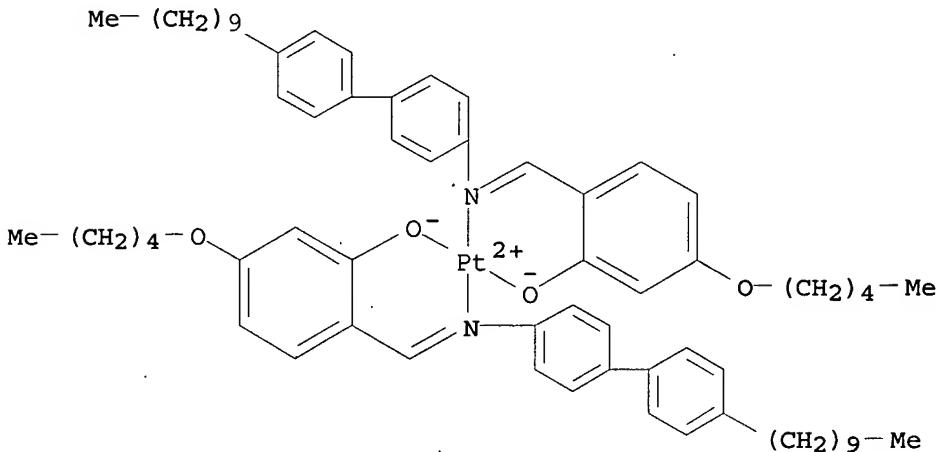
CODEN: LICRE6; ISSN: 0267-8292

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis and mesomorphic properties of a homologous series of N-(2-hydroxy-4-n-alkoxybenzylidene)-4''-n-decylphenylanilines and their Pt(II) and oxovanadium(IV) complexes are reported. All the ligands and their metal chelates exhibit enantiotropic mesophases, predominantly smectic A and smectic C phases. The transition temps. and enthalpies were determined for most of the compds. The Pt(II) complexes have higher m.ps. and mesophase thermal stabilities. However, the oxovanadium(IV) complexes have a wider thermal range for the mesophase. Both Pt(II) and oxovanadium(IV) complexes containing only a chain on the biphenyl moiety exhibit a nematic phase.

IT 155476-41-8P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and liquid crystal properties of)  
 RN 155476-41-8 HCPLUS  
 CN Platinum, bis[2-[[[(4'-decyl[1,1'-biphenyl]-4-yl)imino]methyl]-5-(pentyloxy)phenolato-N2,O1]-, (SP-4-1)- (9CI) (CA INDEX NAME)



CC 75-11 (Crystallography and Liquid Crystals)  
 Section cross-reference(s): 25, 78  
 IT 155097-91-9P 155097-92-0P 155097-93-1P 155097-94-2P  
 155097-95-3P 155097-96-4P 155097-97-5P 155097-98-6P  
 155097-99-7P 155098-00-3P 155098-01-4P 155098-02-5P  
 155098-03-6P 155476-32-7P 155476-33-8P 155476-34-9P  
 155476-35-0P 155476-36-1P 155476-37-2P 155476-38-3P  
 155476-39-4P 155476-40-7P 155476-41-8P  
 155476-42-9P 155476-43-0P 155476-44-1P  
 155476-45-2P 155476-46-3P 155476-47-4P  
 155476-48-5P 155476-49-6P 155515-40-5P  
 155677-74-0P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and liquid crystal properties of)

L41 ANSWER 10 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1994:335697 HCPLUS  
 DOCUMENT NUMBER: 120:335697  
 TITLE: Mesogenic properties of nickel(II) complexes of N-(2-hydroxy-4-n-alkyloxybenzylidene)-4''-n-dodecylphenylanilines  
 AUTHOR(S): Prasad, Veena; Sadashiva, B. K.  
 CORPORATE SOURCE: Raman Res. Inst., Bangalore, 560080, India  
 SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1994), 241, 167-74  
 CODEN: MCLCE9; ISSN: 1058-725X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Ni(II) complexes of N-(2-hydroxy-4-n-alkyloxybenzylidene)-4''-n-dodecylphenylanilines were prepared. These predominantly exhibit smectic A and smectic C phases. A comparison of the mesomorphic

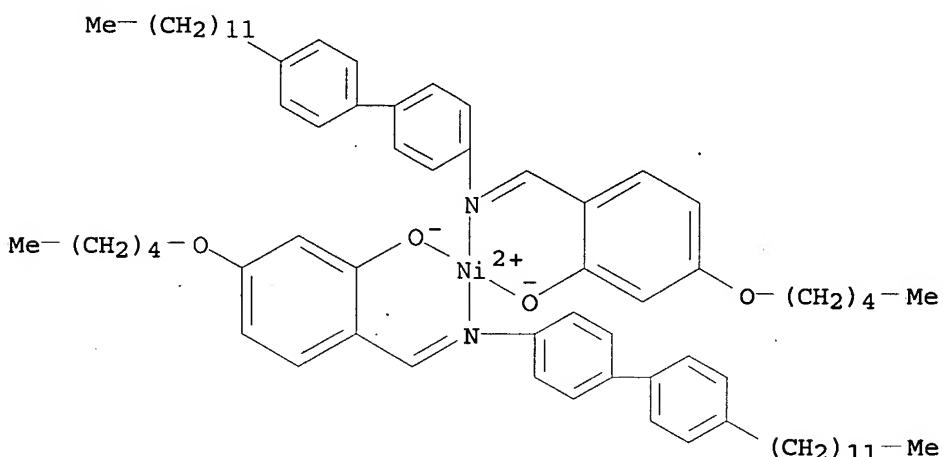
behavior of these complexes with those of the corresponding Cu(II) and Pd(II) complexes was made. The Pd complexes have the highest thermal stability of the mesophases while the Ni complexes have the lowest m.ps. These Ni complexes are diamagnetic in the solid state and exhibit paramagnetic properties in CHCl<sub>3</sub> solution

IT 155515-78-9P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(liquid crystal, preparation and properties of)

RN 155515-78-9 HCPLUS

CN Nickel, bis[2-[[[4'-dodecyl[1,1'-biphenyl]-4-yl)imino]methyl]-5-(pentyloxy)phenolato-N2,O1] - (9CI) (CA INDEX NAME)



CC 75-11 (Crystallography and Liquid Crystals)  
Section cross-reference(s): 78

IT 155515-78-9P 155515-79-0P 155515-80-3P  
155515-81-4P 155515-82-5P 155515-83-6P  
155515-84-7P 155515-85-8P 155515-86-9P  
155515-87-0P 155515-88-1P 155515-89-2P  
155515-90-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(liquid crystal, preparation and properties of)

L41 ANSWER 11 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:91379 HCPLUS

DOCUMENT NUMBER: 120:91379

TITLE: Liquid crystalline properties of o-hydroxy substituted Schiff's bases and their copper(II) and palladium(II) complexes

AUTHOR(S): Prasad, Veena; Sadashiva, B. K.

CORPORATE SOURCE: Raman Res. Inst., Bangalore, 560080, India

SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (1993), 225, 303-12

CODEN: MCLCE9; ISSN: 1058-725X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis and liquid crystalline properties of thirty nine compds. are reported. These include a homologous series of N-(2-hydroxy-4-n-alkoxybenzylidene)-4''-n-dodecylphenylanilines and their

corresponding Cu(II) and Pd(II) complexes. DSC and optical microscopy were used to characterize the mesophases. The Schiff's bases exhibit polymesomorphism while their metal chelates basically show smectic A and smectic C phases except for a few derivs. The transition temps. of the metal chelates are considerably higher than the ligands from which they are derived.

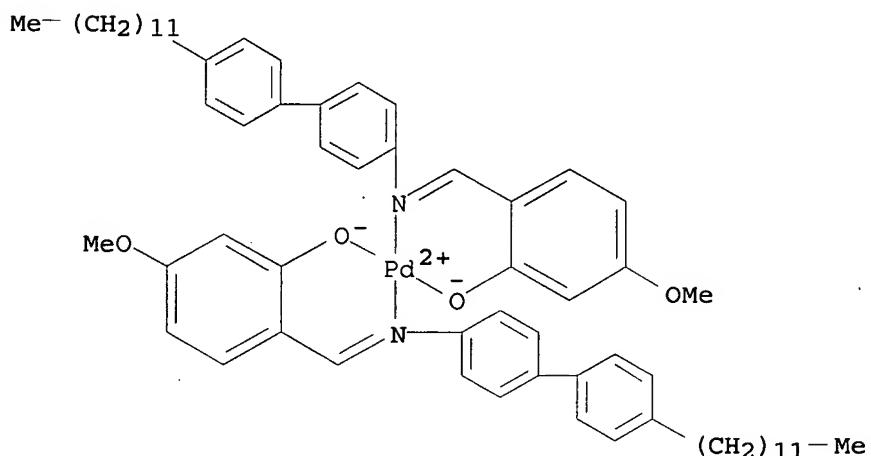
IT 152690-65-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(liquid crystal, preparation and transition temps. of)

RN 152690-65-8 HCPLUS

CN Palladium, bis[2-[[[(4'-dodecyl[1,1'-biphenyl]-4-yl)imino]methyl]-5-methoxyphenolato-N2,O1]- (9CI) (CA INDEX NAME)



CC 75-11 (Crystallography and Liquid Crystals)  
Section cross-reference(s): 78

IT 152501-84-3P 152501-85-4P 152501-86-5P 152501-87-6P  
152501-88-7P 152501-89-8P 152501-90-1P 152501-91-2P  
152501-92-3P 152501-93-4P 152501-94-5P 152501-95-6P  
152501-96-7P 152690-40-9P 152690-41-0P 152690-42-1P  
152690-43-2P 152690-44-3P 152690-45-4P 152690-46-5P  
152690-47-6P 152690-48-7P 152690-61-4P 152690-62-5P  
152690-63-6P 152690-64-7P 152690-65-8P  
152690-66-9P 152690-67-0P 152690-68-1P  
152690-69-2P 152690-70-5P 152690-71-6P  
152690-72-7P 152690-73-8P 152690-74-9P  
152690-75-0P 152690-76-1P 152690-77-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(liquid crystal, preparation and transition temps. of)

L41 ANSWER 12 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:244765 HCPLUS

DOCUMENT NUMBER: 112:244765

TITLE: Polymeric coordination complexes of some bipositive metal ions with Schiff bases

AUTHOR(S): Dwivedi, D. K.; Shukla, R. K.; Maurya, R. C.  
CORPORATE SOURCE: Chem. Lab., Atarra Coll., Atarra, India

SOURCE: Acta Ciencia Indica, Chemistry (1988), 14(2), 91-8

CODEN: ACICDV; ISSN: 0253-7338

DOCUMENT TYPE: Journal

LANGUAGE: English

AB [ML.2H<sub>2</sub>O]<sub>n</sub> (M = Mn, Co, Ni, Cu, Zn; H<sub>2</sub>L = bis(2-hydroxy-1-naphthylmethylene)-o-dianisidine, -p-phenylenediamine, -benzidine) and H<sub>2</sub>L were prepared. The Schiff bases are tetradentate bridging in the polymeric compds. The crystal field parameters were calculated for the Co, Ni and Cu complexes.

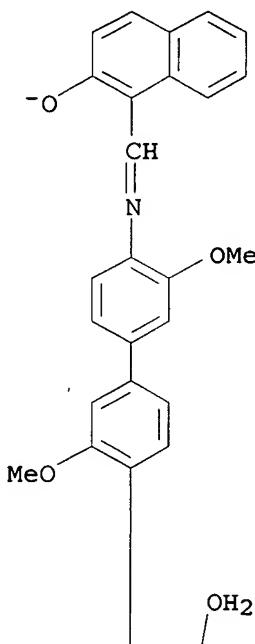
IT 122436-27-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and electronic and IR spectra and crystal field parameters of)

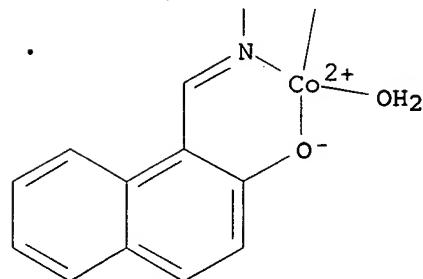
RN 122436-27-5 HCPLUS

CN Cobalt, diaqua[[1,1'-[(3,3'-dimethoxy[1,1'-biphenyl]-4,4'-diyl)bis(nitrilomethylidyne)]bis[2-naphthalenolato]](2-) -N1,O2]-(9CI) (CA INDEX NAME)

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CC 78-7 (Inorganic Chemicals and Reactions)  
 IT 122436-27-5P 122436-28-6P 122436-29-7P  
     122436-31-1P 122436-32-2P 122436-35-5P  
     122469-35-6P 127261-28-3P 127261-29-4P  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
       (preparation and electronic and IR spectra and crystal field  
       parameters of)  
 IT 122436-30-0P 122436-34-4P 122517-08-2P  
     RL: PRP (Properties); SPN (Synthetic preparation); PREP  
       (Preparation)  
       (preparation and electronic and IR spectra of)

L41 ANSWER 13 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:209744 HCPLUS  
 DOCUMENT NUMBER: 112:209744  
 TITLE: Interaction of manganese(II) Schiff's base  
       complexes with sulfur dioxide molecules  
 AUTHOR(S): Abu-El Wafa, Samy M.; Issa, Raafat M.  
 CORPORATE SOURCE: Fac. Educ., Ain Shams Univ., Roxy, Egypt  
 SOURCE: Bulletin de la Societe Chimique de France  
       (1989), (Sept.-Oct.), 595-8  
 CODEN: BSCFAS; ISSN: 0037-8968

DOCUMENT TYPE: Journal  
 LANGUAGE: English

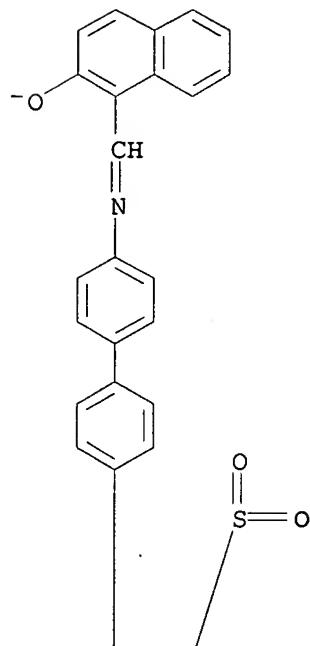
AB The preparation of  $[\text{Mn}(\text{SB})\text{SO}_2]$  [ $\text{H}_2\text{SB}$  = tetradeinate  $\text{o-HOC}_6\text{H}_4\text{CH:N}$ ] $_{2Z}$  ( $Z = (\text{CH}_2)_2$ ,  $(\text{CH}_2)_3$ ,  $(\text{CH}_2)_4$ ,  $\text{o-C}_6\text{H}_4$ ,  $\text{p-C}_6\text{H}_4$ ,  $\text{p-C}_6\text{H}_4\text{C}_6\text{H}_4$ ),  $(\text{RCH:N})_{2Z}$  ( $\text{R} = 2\text{-hydroxynaphthyl}$ ) is reported. The complexes are characterized by elemental anal., IR, electronic spectra and conductance measurements. TGA of the complexes indicated that the  $\text{SO}_2$  mol. is thermally stable  $<150\text{-}160^\circ\text{C}$  after which it is evolved and the complex decomp. The effective magnetic moments at room temperature of the complexes is  $5.71\text{-}5.40 \mu\text{B/Mn atom}$ . ESR spectra of the complexes in  $\text{CHCl}_3$  solution at 300 and 93 K suggest octahedral geometry around the Mn(II) ion.

IT 126824-70-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
       (preparation and ESR and IR spectrum of)

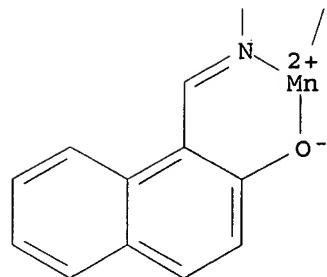
RN 126824-70-2 HCPLUS

CN Manganese, [[1,1'-[[1,1'-biphenyl]-4,4'-diyl]bis(nitrilomethylidyne)]bis[2-naphthalenolato]](2-) -N,O] (sulfur dioxide-S)- (9CI) (CA INDEX NAME)

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CC 78-7 (Inorganic Chemicals and Reactions)

IT 126824-70-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and ESR and IR spectrum of)IT 126773-22-6P 126796-63-2P 126796-64-3P 126796-65-4P  
126796-66-5P 126796-67-6P 126796-69-8P 126796-73-4P  
126824-69-9PRL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(preparation and IR spectrum of)

L41 ANSWER 14 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

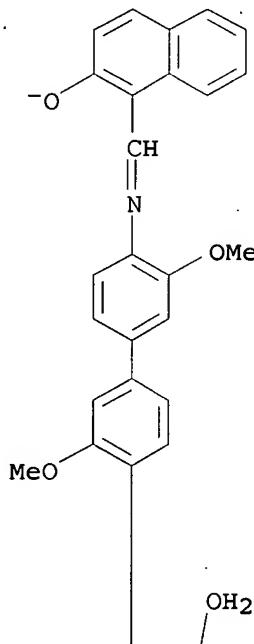
ACCESSION NUMBER: 1989:566094 HCPLUS

DOCUMENT NUMBER: 111:166094

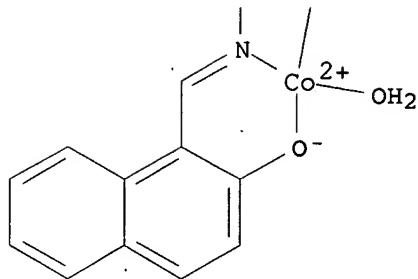
TITLE: Coordination-polymers of manganese(II),  
cobalt(II), nickel(II), copper(II), and zinc(II)

AUTHOR(S) : with some novel Schiff bases  
 Dwivedi, D. K.  
 CORPORATE SOURCE: Chem. Lab., Atarra Coll., Atarra, 210 201, India  
 SOURCE: Current Science (1988), 57(22), 1238-41  
 CODEN: CUSCAM; ISSN: 0011-3891  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Polymeric  $M(H_2O)_2$  ( $M = Co, Cu, Mn, Ni, Zn$ ;  $H_2L$  = Schiff bases from 2-hydroxy-1-naphthaldehyde and aryl diamines) were prepared and characterized by UV spectra and ligand field parameter determination and magnetic moments. Metal coordination is octahedral.  
 IT 122436-27-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and crystal field parameters of)  
 RN 122436-27-5 HCPLUS  
 CN Cobalt, diaqua[[1,1'-(3,3'-dimethoxy[1,1'-biphenyl]-4,4'-diyl)bis(nitrilomethylidyne)]bis[2-naphthalenolato]](2-) -N1,O2]-(9CI) (CA INDEX NAME)

PAGE 1-A



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CC 78-7 (Inorganic Chemicals and Reactions)  
 IT 122436-27-5P 122436-28-6P 122436-29-7P  
     122436-31-1P 122436-32-2P 122436-33-3P 122436-35-5P  
     122436-36-6P 122469-35-6P  
     RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
     (preparation and crystal field parameters of)  
 IT 3172-37-0P 16196-98-8P 17635-31-3P 122436-30-0P  
     122436-34-4P 122517-08-2P 123143-58-8P  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of)

L41 ANSWER 15 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1989:164996 HCPLUS  
 DOCUMENT NUMBER: 110:164996  
 TITLE: Structural, semiconducting and thermal studies  
       of some Schiff-base coordination polymers  
 AUTHOR(S): Aswar, A. S.; Bahad, P. J.; Pardhi, A. V.;  
           Bhave, N. S.  
 CORPORATE SOURCE: Dep. Chem., Nagpur Univ., Nagpur, 440 010, Niger  
 SOURCE: Journal of Polymer Materials (1988), 5(4), 233-9  
 CODEN: JOPME8; ISSN: 0970-0838  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Schiff base coordination polymers of  $\text{Co}(\text{II})$ ,  $\text{Ni}(\text{II})$ ,  $\text{Cu}(\text{II})$ , and  $\text{Zn}(\text{II})$  with substituted acetophenone and aromatic diamine such as bis(2-hydroxy-5-methylacetophenone)benzidine (I) and bis(2-hydroxy-5-chloroacetophenone)benzidine (II) were prepared I and II were characterized by elemental anal., IR, and NMR. Strong interamol. H bonding ( $\text{O-H}\cdots\text{N}$ ) of phenolic OH with amine N was observed as indicated by IR and NMR spectra. The coordination polymers were characterized by elemental anal., magnetic, spectral (electronic and IR) and thermal and elec. conductivity studies. On the basis of these anal., a structure for these polymers was suggested.

IT 120015-55-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
     (preparation and elec. conductivity of)

RN 120015-55-6 HCPLUS

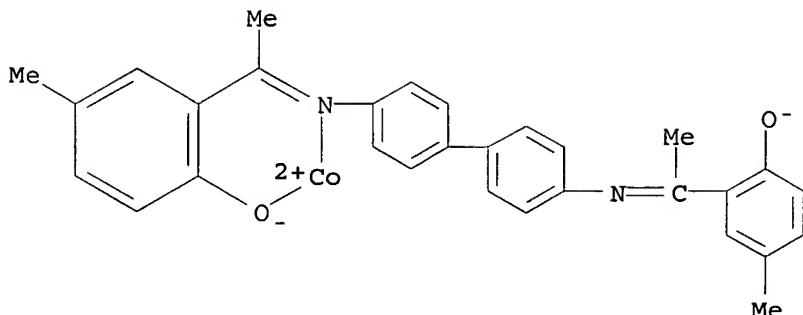
CN Cobalt, [[2,2'-[[1,1'-biphenyl]-4,4'-diyl]bis(nitriloethylidyne)]bis[4-methylphenolato]](2-)-N,O]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 120015-54-5

CMF C30 H26 Co N2 O2

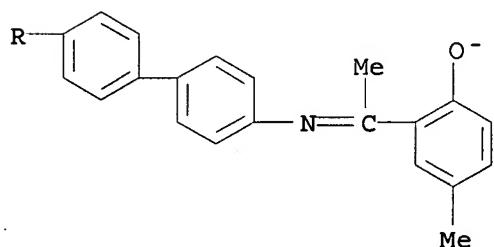
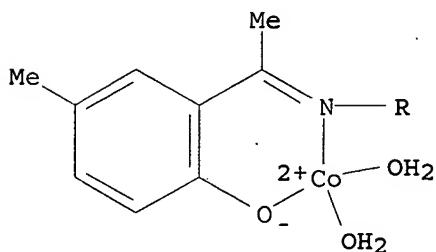
CCI CCS



CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 25, 76  
 IT 120015-55-6P 120015-59-0P 120015-63-6P  
 120028-94-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and elec. conductivity of)  
 IT 119986-72-0P 119986-73-1P 120015-57-8P  
 120015-61-4P 120015-65-8P 120015-67-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L41 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1988:618698 HCAPLUS  
 DOCUMENT NUMBER: 109:218698  
 TITLE: X-ray K absorption spectroscopic study of some Schiff-base polymers of cobalt  
 AUTHOR(S): Mujumdar, P. V.; Deshmukh, Prabodhachandra C.; Sare, V. B.; Bhave, N. S.  
 CORPORATE SOURCE: Dep. Phys., Nagpur Univ., Nagpur, India  
 SOURCE: X-Ray Spectrometry (1988), 17(4), 133-7  
 CODEN: XRSPAX; ISSN: 0049-8246  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The results of a study of the x-ray K absorption spectrum of Co in the elemental form and in some of its Schiff-base coordination polymers are presented. The K absorption discontinuity of Co was recorded together with the XANES and EXAFS associated with it by employing a 0.4 m Cauchois-type bent-crystal spectrophotograph. The (100) planes of a muscovite mica analyzer crystal were used for reflection of x-radiation, the source of which was the W target of a conventional x-ray tube. Measurements were made of the chemical shift, edge width, XANES, and EXAFS associated with the discontinuity. R. M. Levy's theory (1965) and the graphical method based on the theory of E. A. Stern et al. were employed to determine the average radius of the 1st coordination sphere surrounding the Co atom in all the systems studied. The results are discussed in terms of the bond length, bond ionicity, coordination geometry, and some other parameters related to the local environment of the absorbing Co atom.  
 IT 117564-62-2  
 RL: PRP (Properties)  
 (x-ray K absorption spectra of cobalt in)  
 RN 117564-62-2 HCAPLUS  
 CN Cobalt, diaqua[[2,2'-(1,1'-biphenyl)-4,4'-

diylbis(nitriloethylidyne)]bis[4-methylphenolato](2-) -N<sub>2</sub>O<sub>1</sub> - (9CI)  
 (CA INDEX NAME)



CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 117564-62-2 117584-70-0 117608-80-7

RL: PRP (Properties)

(x-ray K absorption spectra of cobalt in)

L41 ANSWER 17 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:648920 HCPLUS

DOCUMENT NUMBER: 107:248920

TITLE: Polymeric coordination complexes of some  
 bipositive metal ions with Schiff bases derived  
 from 5-bromosalicylaldehyde and  
 p-phenylenediamine or benzidine

AUTHOR(S): Dwivedi, D. K.; Maurya, R. C.; Shukla, R. K.;  
 Anandam, N.; Shukla, R.; Dubey, R. C.

CORPORATE SOURCE: Chem. Lab., Atarra Coll., Atarra, 210 201, India  
 SOURCE: Oriental Journal of Chemistry (1987), 3(2),  
 160-4

DOCUMENT TYPE: CODEN: OJCHEG; ISSN: 0970-020X

LANGUAGE: English

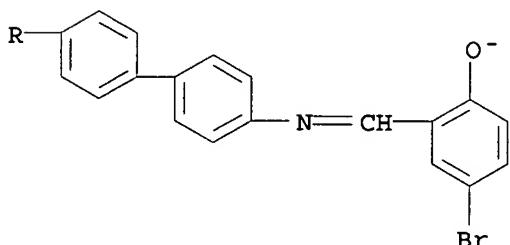
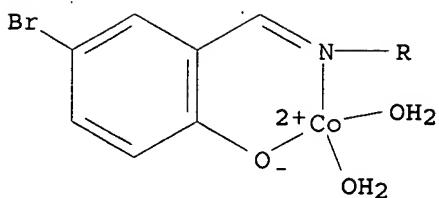
AB [ML(H<sub>2</sub>O)<sub>2</sub>]<sub>n</sub> (M = Co, Ni, Cu; H<sub>2</sub>L = bis(5-bromosalicylidene)-p-phenylenediamine and -benzidine) were prepared and characterized on the basis of anal., magnetic, thermogravimetric and spectral data. The Schiff bases behave as dibasic tetradentate ONNO donor ligands.

IT 111570-36-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and IR spectrum and crystal field parameters of polymeric)

RN 111570-36-6 HCPLUS

CN Cobalt, diaqua[2,2'-[[1,1'-biphenyl]-4,4'-diyl]bis(nitrilomethylidyne)]bis[4-bromophenolato](2-) -N<sub>2</sub>O<sub>1</sub> - (9CI)  
 (CA INDEX NAME)



## CC 78-7 (Inorganic Chemicals and Reactions)

IT 111549-10-1P 111570-34-4P 111570-35-5P 111570-36-6P  
111570-37-7P 111619-10-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and IR spectrum and crystal field parameters of  
polymeric)

L41 ANSWER 18 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:596493 HCPLUS

RECORDED NUMBER: 1963:196493  
DOCUMENT NUMBER: 103:196493

DOCUMENT NUMBER: 105-19815  
TITLE: Synthesis and stereochemical studies of some new chelate polymers

AUTHOR(S) : Patel, M. N.; Jani, B. N.

CORPORATE SOURCE: Dep. Chem., Sardar Patel Univ., Vallabh Vidyanagar, 388120, India

SOURCE: Vidyanagar, 360010, India  
Journal of Macromolecular Science, Chemistry  
(1985), A22(11), 1517-26  
CODEN: JMCHBD; ISSN: 0022-233X

DOCUMENT TYPE: Journal

**LANGUAGE:** English

## AB The polychelates of divalent

The polychelates of divalent metal ions such as Cu, Ni, Co, Mn, and Zn were synthesized from polymeric ligands derived from 4,4'-dihydroxy-3,3'-diacetyl biphenyl and 4,4'-diaminodiphenylmethane. Elemental anal., magnetic susceptibility, visible and IR spectra, and thermal properties of the polychelates were studied. The anal. data suggested the general formula  $(ML)_n$  ( $M$  = metal,  $L$  = ligand) for the polychelates. The polychelates were quite stable but insol. in common organic solvents.

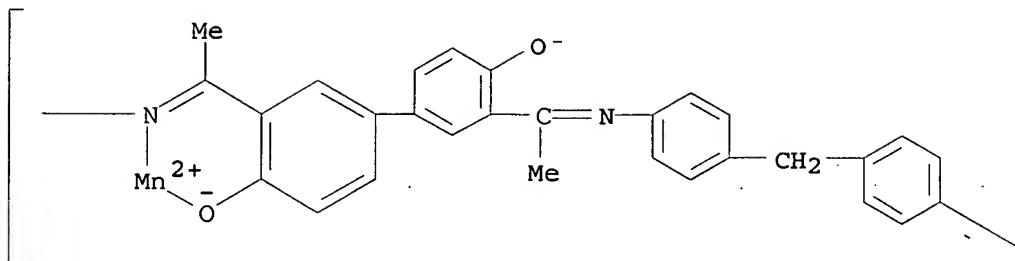
IT 98767-31-8P

RL: SPN (Synthetic preparation); PREP (Preparation (preparation, spectra and magnetic properties of)

RN 98767-31-8 HCAPLUS

CN Poly[nitriloethylidyne(4,4'-dihydroxy[1,1'-biphenyl]-3,3'-diyl)ethylidynenitrilo-1,4-phenylenemethylene-1,4-phenylene manganese complex] (9CI) (CA INDEX NAME)

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[  
]  
n

CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36

IT 7439-96-5DP, complexes with hydroxy-containing polymeric Schiff bases  
7440-02-0DP, complexes with hydroxy-containing polymeric Schiff bases  
7440-48-4DP, complexes with hydroxy-containing polymeric Schiff bases  
7440-50-8DP, complexes with hydroxy-containing polymeric Schiff bases  
7440-66-6DP, complexes with hydroxy-containing polymeric Schiff bases  
98573-05-8DP, complexes with divalent metals 98767-30-7P  
98767-31-8P 98767-32-9P 98767-33-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation, spectra and magnetic properties of)

L41 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:105062 HCAPLUS

DOCUMENT NUMBER: 102:105062

TITLE: New manganese(II) and copper(II) complexes of tetradeятate N<sub>2</sub>O<sub>2</sub> Schiff base ligands

AUTHOR(S): Abu-El-Wafa, S. M.; Ashmawy, F. M.; Issa, R. M.; McAuliffe, C. A.; Parish, R. V.

CORPORATE SOURCE: Fac. Educ., Ain Shams Univ., Cairo, Egypt

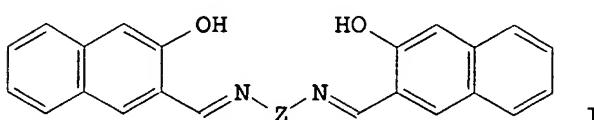
SOURCE: Inorganica Chimica Acta (1985), 96(1), L25-L27

CODEN: ICHAA3; ISSN: 0020-1693

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB MnL(H<sub>2</sub>O)<sub>2</sub> (H<sub>2</sub>L = I, Z = (CH<sub>2</sub>)<sub>2</sub>, o-C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-o; H<sub>2</sub>L = o-HOC<sub>6</sub>H<sub>4</sub>CH:NZN:CHC<sub>6</sub>H<sub>4</sub>OH-o, Z = o-C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>4</sub>-o) and CuL(H<sub>2</sub>O) were prepared and characterized by elemental anal., magnetic moment, molar conductivity, ESR, and IR and visible reflectance spectral methods. The H<sub>2</sub>O mols. are coordinated and L<sub>2</sub><sup>-</sup> is tetradentate via imino N and hydroxy O. A cis monomeric structure is suggested for MnL(H<sub>2</sub>O)<sub>2</sub> (H<sub>2</sub>L = I, Z= (CH<sub>2</sub>)<sub>2</sub>) and a polymeric structure for the other complexes.

IT 94901-33-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 94901-33-4 HCPLUS

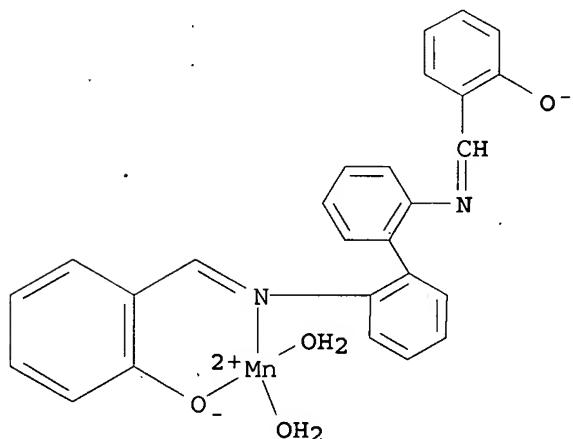
CN Manganese, diaqua[[2,2'-[[1,1'-biphenyl]-2,2'-diylbis(nitrilomethylidyne)]bis[phenolato]](2-) -N,O] -, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 94901-32-3

CMF C26 H22 Mn N2 O4

CCI CCS



CC 78-7 (Inorganic Chemicals and Reactions)

IT 94901-31-2P 94901-33-4P 94955-48-3P 94955-50-7P  
94976-55-3P 94976-56-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L41 ANSWER 20 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1982:192331 HCPLUS

DOCUMENT NUMBER: 96:192331

ORIGINAL REFERENCE NO.: 96:31537a,31540a

TITLE: Novel chain polymers by condensation of metal(II) coordinated salicylaldehyde with diamines

AUTHOR(S): Maurya, Pyare L.; Agarwala, Badri V.; Dey, Arun K.

CORPORATE SOURCE: Chem. Lab., Univ. Allahabad, Allahabad, 211 002, India

SOURCE: Makromolekulare Chemie (1982), 183(3), 511-16  
 CODEN: MACEAK; ISSN: 0025-116X

DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Coordination polymers, -(ML)n- were synthesized by condensation of bis(salicylaldehydo)metal(II) ( $M = Co$ ,  $Ni$ , and  $Cu$ ) with diamines (1,4-diaminobenzene and 4,4'-diaminobiphenyl). Their composition, structure, thermal stability, and phys. properties were investigated by anal., magnetic, spectral (IR and diffuse reflectance spectra), and thermogravimetric studies. In the bis(salicylaldehydo)metal(II)-chelates, 2 salicylaldehyde mols. are linked to each metal ion through the O atoms of the phenolic and aldehydic groups and in the polymeric complexes the N atoms of the amino groups replace the aldehyde oxygens. The diamine mol. is thus acting as a bridging unit between 2 salicylaldehydometal(II) units. The polymers obtained from 4,4'-diaminophenyl are thermally more stable than those from 1,4-diaminobenzene, the order of thermal stability in both cases being  $Ni(II) > Cu(II) > Co(II)$ .  $Co(II)$  and  $Cu(II)$  complexes are paramagnetic, whereas  $Ni(II)$  complexes are diamagnetic. The reflectance spectra along with the magnetic data suggest a square planar structure for  $Cu(II)$  and  $Ni(II)$  complexes, and a tetrahedral one for the  $Co(II)$  complexes.

IT 52658-78-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 52658-78-3 HCPLUS

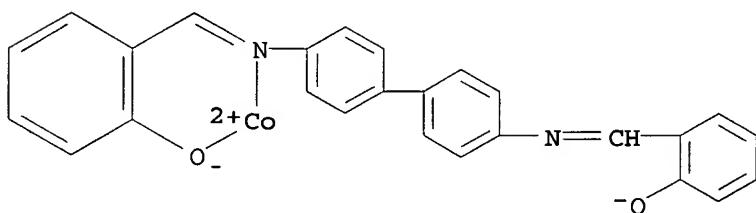
CN Cobalt, [[2,2'-[1,1'-biphenyl]-4,4'-diylbis(nitrilomethylidyne)]bis[phenolato]](2-)], homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 52658-77-2

CMF C26 H18 Co N2 O2

CCI CCS



CC 78-7 (Inorganic Chemicals and Reactions)

IT 29932-09-0P 52658-78-3P 52682-48-1P 59926-65-7P  
 59926-69-1P 81613-05-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L41 ANSWER 21 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1981:454006 HCPLUS

DOCUMENT NUMBER: 95:54006

ORIGINAL REFERENCE NO.: 95:9007a,9010a

TITLE: Cobalt(II) complexes of quadridentate poly  
 Schiff bases

AUTHOR(S): Patel, M. N.; Patil, Shirish H.

CORPORATE SOURCE: Dep. Chem., Sardar Patel Univ., Vallabh

SOURCE: Vidyayanagar, 388 120, India  
 Indian Journal of Chemistry, Section A:  
 Inorganic, Physical, Theoretical & Analytical  
 (1981), 20A(5), 523-4  
 CODEN: IJCADU; ISSN: 0376-4710

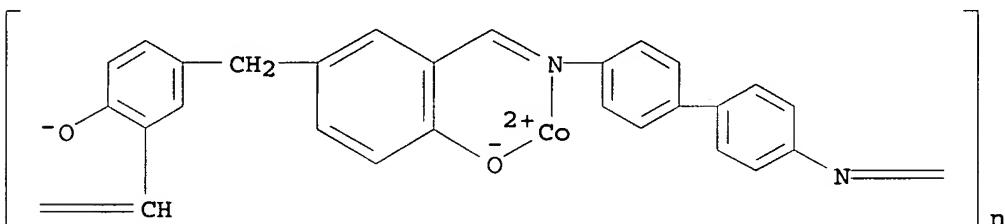
DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Co(II) complexes of Schiff bases polymers derived from 5,5'-methylenebis(salicylaldehyde) or 5,5'-sulfonylbis(salicylaldehyde) and various diamines are reported. Tetrahedral structures are assigned to the chelates on the basis of anal., electronic spectral, and magnetic susceptibility data.

IT 78332-32-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 78332-32-8 HCPLUS

CN Poly[nitrilo[1,1'-biphenyl]-4,4'-diylnitrilomethylidyne(6-hydroxy-1,3-phenylene)methylene(4-hydroxy-1,3-phenylene)methylidyne cobalt complex] (9CI) (CA INDEX NAME)



L41 ANSWER 22 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1976:455951 HCPLUS

DOCUMENT NUMBER: 85:55951

ORIGINAL REFERENCE NO.: 85:8981a,8984a

TITLE: Complexes of some bivalent metals with tetradentate Schiff bases

AUTHOR(S): Chikina, N. L.; Litvinov, V. V.; Kolodyazhnyi, Yu. V.; Kolomin, L. G.; Osipov, O. A.

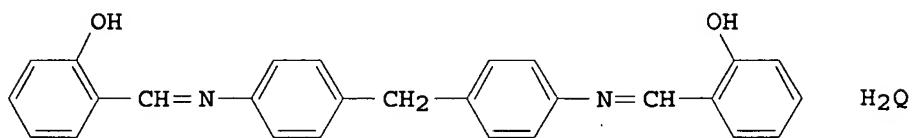
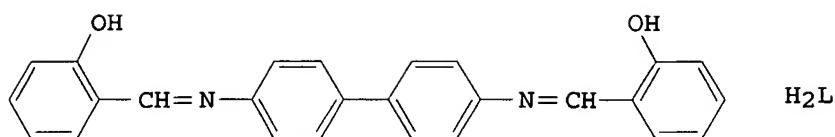
CORPORATE SOURCE: Rostov. Gos. Univ., Rostov, USSR

SOURCE: Koordinatsionnaya Khimiya (1976), 2(5), 632-7

DOCUMENT TYPE: Journal

LANGUAGE: Russian

GI



AB  $\text{M}(\text{OAc})_2$  ( $\text{M} = \text{Zn, Cu, Co, Ni, Be}$ ) and the Schiff bases,  $\text{H}_2\text{L}$  and  $\text{H}_2\text{Q}$ , react in refluxing DMF to give  $\text{ML}$  and  $\text{MQ}$ , resp. The insol. and the magnetic moments of the  $\text{ML}$  complexes indicate that the complexes are coordination polymers and the central metal has a tetrahedral environment. The decrease in the elec. conductivity and the increase in the activation energy in the transition from Cu to Ni to Co to Zn indicate that the basic contribution to the conductivity of the samples is due to the electronic states and not to ionic structure. The Zn and Be complexes luminesce under the effect of uv radiation in the solid and liquid phases.

IT 52658-78-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and properties of)

RN 52658-78-3 HCPLUS

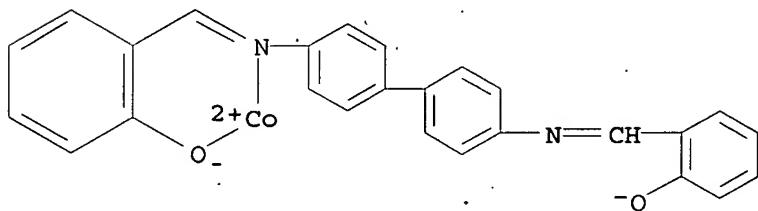
CN Cobalt, [[2,2'-[[1,1'-biphenyl]-4,4'-diyl]bis(nitrilomethylidyne)]bis [phenolato]](2-)], homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 52658-77-2

CMF C26 H18 Co N2 O2

CCI CCS



CC 78-7 (Inorganic Chemicals and Reactions)

IT 36344-60-2P 52658-78-3P 59926-65-7P 59926-67-9P  
59926-69-1P 59926-71-5P 59926-73-7P 59926-75-9P  
59926-77-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and properties of)

L41 ANSWER 23 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1975:132470 HCPLUS

DOCUMENT NUMBER: 82:132470  
 ORIGINAL REFERENCE NO.: 82:21113a, 21116a

TITLE: The ir spectra of transition metal polymeric complexes with new Schiff bases

AUTHOR(S): Doadrio, A.; Craciunescu, D.; Shohet, Y.

CORPORATE SOURCE: Fac. Pharm., Univ. Madrid, Madrid, Spain

SOURCE: Farmaseuttinen Aikakauslehti (1974), 83(3), 157-61

CODEN: FMAKAZ; ISSN: 0367-259X

DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB ML (M = Cu<sup>2+</sup>, Co<sup>2+</sup>, Ni<sup>2+</sup>, Zn; and H<sub>2</sub>L = Schiff bases derived from 2,4-dihydroxybenzaldehyde and 3,3'-dimethyl-4,4'-diaminodiphenylmethane, 3,3'-dimethyl-4,4'-diaminodicyclohexylmethane, 4,4'-diaminodicyclohexylmethane, 3,3'-dimethylbenzidine) were prepared and characterized by ir spectra. The complexes are dimeric or polymeric. The Schiff bases act as tetradeятate ligands.

IT 55543-46-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 55543-46-9 HCPLUS

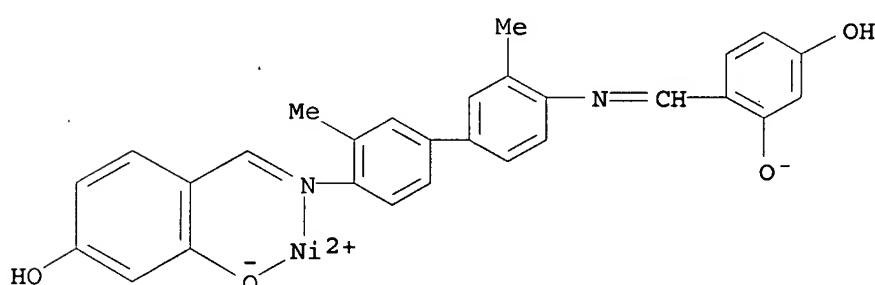
CN Nickel, [[4,4'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(nitrilomethylidyne)]bis[1,3-benzenediolato]](2-)-N4,O3] -, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 55543-45-8

CMF C28 H22 N2 Ni O4

CCI CCS



CC 78-7 (Inorganic Chemicals and Reactions)

IT 55543-44-7P 55543-46-9P 55543-48-1P 55543-50-5P  
 55543-52-7P 55571-64-7P 55571-66-9P 55571-68-1P 55571-70-5P  
 55571-72-7P 55607-75-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L41 ANSWER 24 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1974:88890 HCPLUS

DOCUMENT NUMBER: 80:88890

ORIGINAL REFERENCE NO.: 80:14287a, 14290a

TITLE: High-spin cobalt(II) chelates with tetradeятate Schiff bases

AUTHOR(S): Zelentsov, V. V.; Bogdanov, A. P.; Rukhadze, E. G.; Talyzenkova, G. P.

CORPORATE SOURCE:

Mosk. Fiz.-Tekh. Inst., Moscow, USSR  
 Zhurnal Neorganicheskoi Khimii (1973), 18(12),  
 3350-3

CODEN: ZNOKAQ; ISSN: 0044-457X

DOCUMENT TYPE:

Journal

LANGUAGE:

Russian

AB To determine the structure of Co(II) salicylalazine and vanillalazine complexes, the magnetic susceptibility and the magnetic moment were determined at 80-300°K. Taking into account the value of a magnetic moment that corresponds to the  $S = 3/2$  state of Co(II), data on the magnetic moment of these compds. indicate that the salicylalazine complexes have a chain-like (polymeric) structure composed of  $N_2O_2$  tetrahedrons, whereas the structure of the vanillalazine complexes is probably octahedral.

IT 52658-39-6

RL: PRP (Properties)  
 (magnetic properties of)

RN 52658-39-6 HCPLUS

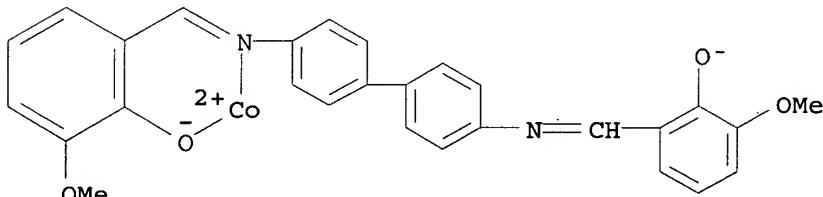
CN Cobalt, [[2,2'-[[1,1'-biphenyl]-4,4'-diyl]bis(nitrilomethylidyne)]bis[6-methoxyphenolato]](2-)N2,O1-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 52658-38-5

CMF C28 H22 Co N2 O4

CCI CCS



CC 72-1 (Magnetic Phenomena)

IT 52658-37-4 52658-39-6 52658-74-9 52658-76-1  
 52658-78-3 52678-88-3 52682-48-1

RL: PRP (Properties)  
 (magnetic properties of)

L41 ANSWER 25 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1973:521378 HCPLUS

DOCUMENT NUMBER: 79:121378

ORIGINAL REFERENCE NO.: 79:19677a,19680a .

TITLE: Coordination polymers of Schiff base ligands and their monomeric analogs

AUTHOR(S): Dunski, Naphthali; Crawford, Thomas H.

CORPORATE SOURCE: Dep. Chem., Univ. Louisville, Louisville, KY,  
USA

SOURCE: Journal of Inorganic and Nuclear Chemistry  
 (1973), 35(8), 2707-17

CODEN: JINCAO; ISSN: 0022-1902

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymeric  $(ML)_x$  [M = Ni, Co, Cu; H<sub>2</sub>L = N,N'-bis(salicylidene)-3,3'-bis(methylthio)benzidine, N,N'-[bis(salicylidene)]-bis(o-

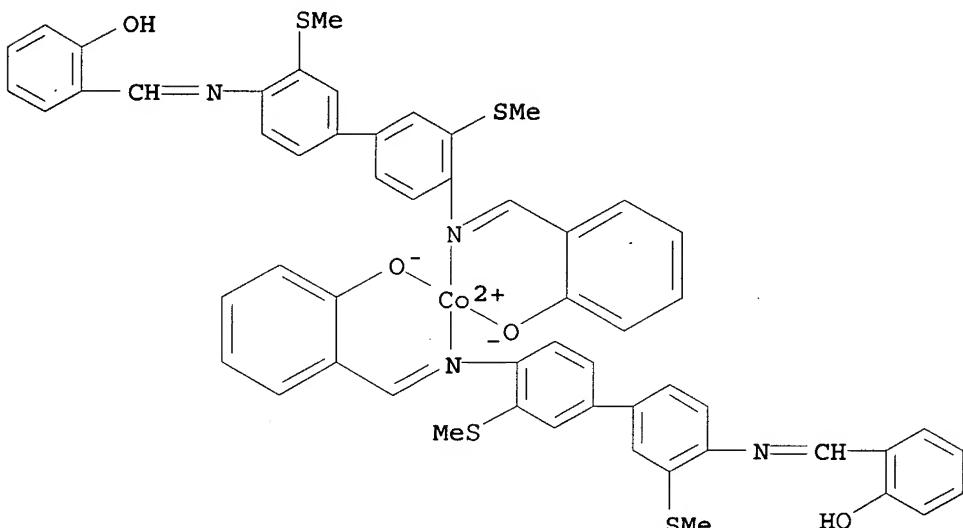
methylthioaniline)] and their monomeric analogs ML12 ( $H_2L1 = N$ -salicylidene- $\alpha$ -methylthioaniline,  $M = Ni, Co, Cu$ ;  $H_2L1 = N$ -( $\alpha$ -hydroxyacetophenylidene)- $\alpha$ -methylthioaniline,  $M = Ni, Cu$ ) were prepared and characterized by anal., spectra, and magnetic properties. Pd2LC12 and PdL1Cl were prepared, no polymeric Pd(II) complexes were isolated. Monomeric CoL2 [ $HL = N,N'$ -bis(salicylidene)-3,3'-bis(methylthio)benzidine] was low-spin, with approx. square planar coordination.

IT 42992-90-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 42992-90-5 HCAPLUS

CN Cobalt, bis[[2,2'--[[3,3'-bis(methylthio)[1,1'-biphenyl]-4,4'-diyl]bis(nitrilmethylidyne)]bis[phenolato]](1-)]-, (SP-4-1)- (9CI)  
(CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)

IT 19850-36-3P 42805-84-5P 42805-85-6P 42805-86-7P 42871-23-8P  
42871-24-9P 42871-25-0P 42871-26-1P 42871-27-2P 42942-58-5P  
42942-59-6P 42947-43-3P 42992-89-2P 42992-90-5P  
42993-30-6P 42993-31-7P 42993-32-8P 42993-33-9P 42993-34-0P  
42993-35-1P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L41 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2007. ACS on STN

ACCESSION NUMBER: 1972:93950 HCAPLUS

DOCUMENT NUMBER: 76:93950

ORIGINAL REFERENCE NO.: 76:15065a,15068a

TITLE: Diphenyl derivative complexes. XXVI. Complexes of bivalent metals with the Schiff bases of aromatic diamines and  $\beta$ -resorcyraldehyde

AUTHOR(S): Macarovici, Const. Gh.; Dorutiu, A.; Gal, M.

CORPORATE SOURCE: Univ. Babes-Bolyai, Cluj, Rom.

SOURCE: Studia Universitatis Babes-Bolyai, Chemia  
(1971), 16(2), 31-7

CODEN: SUBCAB; ISSN: 1224-7154

DOCUMENT TYPE: Journal

LANGUAGE: French

AB New complex chelates were prepared by reaction of acetates of Co, Ni, Cu, and Zn with Schiff bases of bis(4-aminophenyl)methane, 2,7-diaminofluorene, and 4,4'-diaminobiphenyl with  $\beta$ -resorcylaldehyde. The metal/Schiff base ratio is 1:1 for all the complexes. From the IR spectra it is concluded that the complexes, which do not melt at  $\leq 300^\circ$ , are probably dimers or polymers.

IT 36251-07-7P

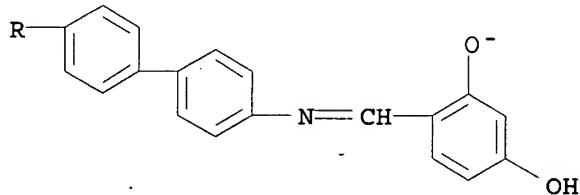
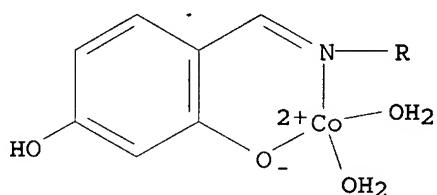
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 36251-07-7 HCPLUS

CN Cobalt, diaqua[[4,4'--[[1,1'-biphenyl]-4,4'-diylbis(nitrilomethylidyne)]bis[1,3-benzenediolato]](2-)N4,O3]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 47765-98-0  
CMF C26 H22 Co N2 O6  
CCI CCS



CC 78 (Inorganic Chemicals and Reactions)

IT 36250-99-4P 36251-00-0P 36251-01-1P 36251-02-2P 36251-03-3P  
36251-04-4P 36251-05-5P 36251-06-6P 36251-07-7P  
36251-08-8P 36352-09-7P 36352-10-0P 36352-11-1P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L41 ANSWER 27 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1959:75781 HCPLUS

DOCUMENT NUMBER: 53:75781

ORIGINAL REFERENCE NO.: 53:13706i,13707a-c

TITLE: Magnetic measurements on some complexes of nickel with organic bases

AUTHOR(S): Manca, Pietrino

CORPORATE SOURCE: Univ. Cagliari, Italy

SOURCE: Rend. seminar. fac. sci. univ. Cagliari (1958),  
28, 69-75

DOCUMENT TYPE: Journal

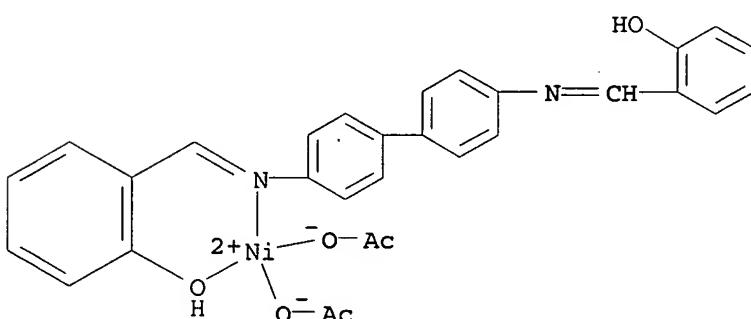
LANGUAGE: Unavailable

AB In the course of related work Ni complexes with amines and Schiff bases were prepared: Ni bromosalicylaldehyde (I), Ni bromosalicylaldehyde-o-phenylenediamine (II), Ni salicylaldehyde-benzidine acetate (III), and Ni ethylenediamine sulfate (IV). Methods of preparation and results of elementary analysis are given for each. Magnetic measurements were made at 291°K. by use of the Weiss-Foex-Forrer type translation pendulum. II is diamagnetic. For I, III, and IV, resp.,  $\chi_{sp}$  + 10-5 = 0.818, 0.796, 0.143;  $\chi_{\mu}$  + 10-3 = 4.119, 4.860, 4.900; Bohr magnetons 3.11, 3.36, 3.38 vs. 2.83 theoretical; each have 2 unpaired electrons. The exptl. data were corrected for the diamagnetism of the nonmetallic portion of the mols. Diamagnetism of II is presumed due to  $d_{sp}^2$  hybridization of Ni electrons, giving rise to Ni<sup>++</sup> ion in the complex with a  $d_9s p_2$  configuration. In I the tetrahedral  $sp^3$  Ni hybrid gives rise to Ni<sup>++</sup> in  $d_8s p_3$  configuration and a tetrahedral complex, in apparent agreement with other Ni analogs (Tyson and Adams, C.A. 34, 43148). The structure of III is attributed tentatively to the formation of a dimer complex with Ni tetrahedrally coordinated by 2  $CH_3COO^-$  and 2 N. III is completely insol. in most of the common organic solvents. The Ni of IV is octahedrally coordinated by 3 ethylenediamines in 4 ionic, partly covalent, structures in resonance, each of which yields a net of 2 unpaired electrons accounting for the paramagnetism. IV is considered similar to Ni<sup>++</sup> coordinated by 6  $H_2O$  but with greater energy of ligands.

IT 129153-11-3

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 129153-11-3 HCPLUS

CN Nickel, bis(acetato- $\kappa O$ ) [2-[[[4'-[[[(2-hydroxyphenyl)methylene]amino][1,1'-biphenyl]-4-yl]imino- $\kappa N$ ]methyl]phenol- $\kappa O$ ] - (CA INDEX NAME)

CC 2 (General and Physical Chemistry)

IT 15304-51-5 125737-61-3 127185-95-9 129153-11-3

(Derived from data in the 6th Collective Formula Index (1957-1961))

L41 ANSWER 28 OF 28 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1959:75780 HCPLUS

DOCUMENT NUMBER: 53:75780

ORIGINAL REFERENCE NO.: 53:13706h-i

TITLE: Magnetic properties at low temperatures of bivalent fluorides of cobalt and nickel

AUTHOR(S): Bizette, H.; Tsai, B.

SOURCE:

Bull. inst. intern. froid Annexe (1955) 149-52.

DOCUMENT TYPE:

Journal

LANGUAGE:

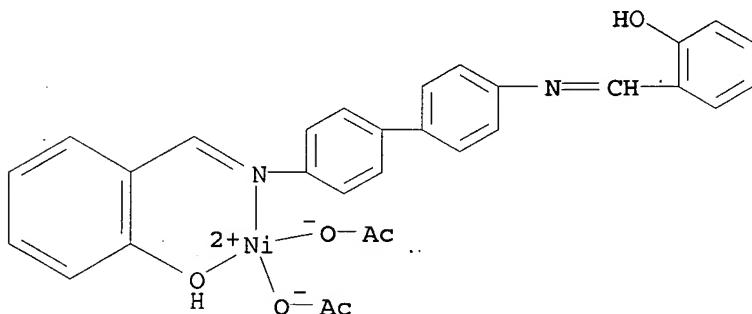
Unavailable

AB New results on the magnetic susceptibility in the temperature range from 4 to 300°K. are reported for CoF<sub>2</sub> and NiF<sub>2</sub>. CoF<sub>2</sub> follows the Curie-Weiss law with the expression  $\chi M = 3.00/(T + 37)$ . An inflection occurs at 37.7°K., where there is a maximum in the heat capacity. NiF<sub>2</sub> shows metamagnetism at low temps. and below 73°K., the location of a maximum in the heat capacity, the magnetization depends on whether or not the sample is cooled in a magnetic field. The results for both removed the apparent contradiction between magnetic properties and neutron-diffraction results.

IT 129153-11-3

(Derived from data in the 6th Collective Formula Index  
(1957-1961))

RN 129153-11-3 HCAPLUS

CN Nickel, bis(acetato- $\kappa$ O)[2-[[[4'-[[[(2-hydroxyphenyl)methylene]amino][1,1'-biphenyl]-4-yl]imino- $\kappa$ N]methyl]phenol- $\kappa$ O]- (CA INDEX NAME)

CC 2 (General and Physical Chemistry)

IT 15304-51-5 125737-61-3 127185-95-9 129153-11-3

(Derived from data in the 6th Collective Formula Index  
(1957-1961))

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